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ABSTRACT

As one phase of a larger inquiry (See SP 004 601, SP 004 602, and SP 004 603) aimed ultimately at increasing the quantity and quality of doctoral degree holders in the field of professional education, a study surveyed conditions affecting pursuit of the doctoral degree in education. Questionnaires were sent to all available individuals who received the Ed.D. or Ph.D. in education between 1956 and 1958. Responses were received from 78.5 percent of the persons polled. Respondents represented 91 institutions which award the doctorate in education. The purpose was to develop hypotheses. Chi square analysis and rank correlation were used. Tabulations were made across all items (the mass data), across major fields, across degrees, and across institutions. Findings revealed information regarding circumstances and events leading up to doctoral study, pursuit of the degree, attitudes toward selected situations encountered during the program and period of residency, and since the degree. Six critical factors were identified which underlie conditions affecting pursuit of the doctoral degree in education: sociological facts relative to the individual in the sample, age of the graduates, length of the doctoral program, financial factors, the occupational sources of students and the kinds of positions taken after receipt of the doctorate, and institutional control of factors affecting pursuit of the degree. (Included are findings, conclusions, and suggestions for further study. SP 004 599, SP 004 600, and ED 010 188 are related documents.) (JS)

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THE DOCTORATE IN EDUCATION

An Inquiry into Conditions Affecting Pursuit of the Doctoral Degree in the Field of Education

VOLUME I -- THE GRADUATES

prepared for

The Committee on Studies
and
The Subcommittee on Faculty Personnel
of
The American Association of Colleges for Teacher Education

final tabulation and report prepared
by
Laurence D. Brown
J. Marlowe Slater

SP004600

THE AMERICAN ASSOCIATION OF COLLEGES FOR TEACHER EDUCATION

1960

The American Association of Colleges for Teacher Education

The American Association of Colleges for Teacher Education, an autonomous department of the National Education Association, is a national voluntary association of colleges and universities organized to improve the quality of institutional programs of teacher education. All types of four-year institutions for higher education are represented in the present membership. These include private and church-related liberal arts colleges, state teachers colleges, state colleges, state universities, private and church-related universities, and municipal universities. The teacher-education programs offered by the member institutions are varied. Only one uniform theme dominates the AACTE--the dedication to ever-improving quality in the education of teachers.

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FOREWORD

The Committee on Studies of The American Association of Colleges for Teacher Education takes pride in transmitting to the membership this outstanding study of the conditions which affect the pursuit of the doctoral degree in the field of education. This publication reflects the basic concern of AACTE institutions for the source of future professional leaders, and it is expected that these data will be of real benefit in the analysis of the problem of increasing the supply of well-qualified teacher education faculty.

This study was first conceived and implemented by the late B. L. Dodds, dean of the College of Education, University of Illinois, and past chairman of the Studies Committee of the AACTE. Through his dedicated efforts and those of the Subcommittee chairman, Harold E. Moore, director of the School of Education, University of Denver, Denver, Colorado, the facilities and some of the personnel of these two institutions were made available to spearhead this study. The Association is deeply indebted to the members of the Subcommittee on Faculty Personnel for Teacher Education who guided the total study. The effort and initiative of these people, combined with the cooperation of the participating institutions and the recipients of the doctoral degree, made the successful completion of this study possible.

Harold E. Hyde
Chairman,
Committee on Studies, 1959-60

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*Deceased, March 1959

PREFACE

The Graduate Phase of An Inquiry into Conditions Affecting Pursuit of the Doctoral Degree in the Field of Education was conducted under the auspices of the Committee on Studies of The American Association of Colleges for Teacher Education and was directed by the Subcommittee on Faculty Personnel for Teacher Education. Staff was provided by the College of Education, University of Illinois, Urbana, Illinois. The Institutional Phase of the Inquiry, conducted at the University of Denver, was a related project and is reported under separate cover. The two phases had many points of contact, which will be established in a third publication to be released at a later date.

Laurence D. Brown, a graduate assistant in the Office of Teacher Placement, University of Illinois, developed the questionnaire for the Graduate Phase, summarized the data for the preliminary report to participating institutions, made the analyses, and wrote this report. This phase of the study was under the general direction of J. Marlowe Slater, acting director of the Office of Teacher Placement, University of Illinois, and a member of the AACTE Subcommittee on Faculty Personnel for Teacher Education.

Others at the University of Illinois who made invaluable suggestions as to content and procedure for the study were:

B. L. Dodds, dean,* College of Education
Charles M. Allen, associate dean, College of Education
Frank H. Finch, coordinator of graduate study in education
William P. McLure, director, Bureau of Educational Research
David H. Gliessman, graduate student, University of Illinois, Urbana
Francis H. Flerchinger, assistant director for research, Statistical Service Unit, University of Illinois, Urbana
Julia P. Snyder, chief clerk, Stenographic Service, College of Education, University of Illinois, Urbana

Important assistance was provided during every stage of the study by the staff of the central office of AACTE and especially by Edward C. Pomeroy, executive secretary; William E. Engbretson, associate executive secretary at the outset of the study; and Paul M. Allen, associate secretary for research and studies during the final stages of the study.

Grateful acknowledgment is made to the 91 deans who submitted lists of graduates and to the 2870 respondents to the questionnaire. These were the contributions which made this study possible.

J. M. Slater
University of Illinois

Urbana, Illinois
April 1960

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*Deceased

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Chapter I

NATURE AND DESIGN OF THE STUDY

PURPOSE OF THE STUDY

Early in 1958, the Committee on Studies of the American Association of Colleges for Teacher Education approved a study conceived by the late Dean B. L. Dodds, University of Illinois. This proposal for an analysis of conditions affecting the pursuit of the doctoral degree in education was referred for design and action to the Subcommittee on Faculty Personnel for Teacher Education under the chairmanship of Harold E. Moore, director, School of Education, University of Denver. The subcommittee suggested that two related surveys be conducted by means of questionnaires: one to be completed by recipients of doctoral degrees in education and one to be completed by institutions granting those degrees.

The portion of the study dealing with graduates was undertaken by the University of Illinois and is presented here as Volume I. The institutional portion of the study was prepared by the University of Denver as Volume II. Although the total inquiry remains a joint project, the two portions have been developed and conducted relatively independently of one another. A report which constitutes a synthesis of major points in the Illinois and Denver studies will be the final goal of the total project and issued as the third volume. To facilitate this task, the present report emphasizes possible points of contact with the Denver portion of the study.

Inspiration for the study stems directly from the growing realization that the annual production of doctoral graduates in the field of education falls far short of the annual needs for teachers and other professional workers at this degree level. Furthermore, projection data indicate that the situation may deteriorate rather than improve.

The ultimate goal, then, is to increase the quantity and quality of doctoral degree holders in the field of professional education. It is believed that an analysis of the factors and conditions surrounding the pursuit of the doctoral degree in education will bring to light some of the more critical features of the process and permit the formulation of plans aimed toward their control.

METHOD OF THE STUDY--OUTLINED

In order to implement the above-mentioned aims, it was decided to:

1. Develop an instrument in the form of a questionnaire for the purpose of gathering data felt to be pertinent to the conditions affecting graduate study at the doctoral level in the field of education;

2. Select a representative sample of recipients of the doctoral degree in eduation;

3. Seek co-operation of institutions conferring doctoral degrees, requesting names and addresses of graduates so as to obtain the maximum return from the specified population;

4. Contact the individuals and request their co-operation in obtaining the relevant data;

5. Tabulate and analyze the data and seek factors that appear to be critical in the pursuit of the doctoral degree; and

6. Report the results with emphasis on the critical factors found. This report represents the sixth step of the study.

METHOD OF THE STUDY--DESCRIPTION

The questionnaire was developed at the University of Illinois in the summer of 1958 in accordance with an outline developed by the AACTE Subcommittee on Faculty Personnel. One portion of the questionnaire consisted of a series of items requesting such objective information as personal data, employment and educational background, dates, and costs. The remainder of the questionnaire consisted of items designed to obtain perceptions and attitudes of the individuals relative to certain factors and conditions which were faced during their doctoral programs. The items were semistructured in form; that is, certain standard response categories were included but were accompanied also by open categories which the respondents were strongly encouraged to use. This procedure was felt to combine the advantages of ease of response and efficient coding of rigidly structured items with the latitude and depth of response which can come from open-end items.

In addition to the questionnaire, a supplementary form was designed which requested information about academic loads, university-sponsored work experiences, financial sources, and housing as plotted across time; that is, the pattern and sequence of events and conditions were sought. However, because of the effort required to complete both forms, the supplementary form was sent only to every tenth individual in the sample.

The structure and content of the instruments were approved at a meeting of the subcommittee in Kansas City, Missouri, on June 30, 1958. Also at this meeting, the population was defined specifically as all those individuals who had received the Ph.D. or Ed.D. degree in the United States in the field of education between September 1956 and September 1958. Further, it was determined by what means the institutions and their graduates were to be contacted (see step 3, above).

The Central Office, AACTE, distributed the questionnaires in accordance with these formulated plans and subsequently forwarded the completed questionnaires to the University of Illinois for analysis.

The questionnaires were coded for IBM tabulation by a team of eight individuals under the close supervision of Laurence D. Brown. These eight persons were thoroughly instructed about the content and purpose of the questionnaire and the coding system used. All decisions concerning the coding of ambiguous or vague responses were made by the supervisor. For each questionnaire, the coding process required approximately 20 to 25 minutes and four IBM cards.

The data were tabulated at the University of Illinois Statistical Service Unit in four separate tabulations. First, the mass data were tabulated giving the totals and percents for all persons on all items. Second, the data of each institution were tabulated on all items. Third, the data were split according to degree received (Ed.D. or Ph.D.) and tabulated on a portion of the items with the results subjected to chi-square analysis. Fourth, the data were tabulated on a portion of the items across 15 major field classifications. Fifth, the data obtained from the supplementary form, which had been included in a fraction of the questionnaires, were tabulated manually.

The only statistical procedures used were the chi-square analysis mentioned above and a number of manually calculated rank order correlations on the data tabulated across institutions. Without further reference to the statistical treatments used, the reader should realize that whenever Ph.D. and Ed.D. degrees are reported as independent, a chi-square analysis has been used; and, all correlations reported are rank correlations. The decision to subject certain items to statistical analysis was arbitrary. Whenever the data seemed to suggest differences or relationships, statistical treatment was used.

NATURE OF THE STUDY

This study attempts simply to report the findings, but a number of restrictions or cautions should be kept in mind by the reader. The study was not meant to be evaluative. It does not attempt to evaluate institutions or individuals. In fact, it is committed to a policy of not revealing the data by specific institutions or individuals. The study is descriptive rather than evaluative, and normative rather than experimental. It is a field study which attempts to reveal some characteristics of a defined group of individuals.

The reader should also be reminded that many interpretations made on the basis of these data will be highly speculative--in the nature of hypotheses rather than conclusions. It may seem at times that the interpretations are poorly justified or incorrect. This is the nature of hypotheses. However, even incorrect hypotheses may be thought-provoking.

Chapter II

THE SAMPLE DEFINED

On July 30, 1958, a letter was sent to institutions thought to have conferred the doctoral degree in the field of education between September 1956 and September 1958. Each institution was asked to submit the names, addresses, and major fields of all graduates whose degrees were conferred within the specified time limits. The response to this request was excellent. Among 92 schools granting the degree during this period, only one declined to assist in the study. The sample population, therefore, consists of very nearly 100 percent of the graduates during this two-year period.

The lists from each of the universities yielded a total of 3375 individuals. Of this total, however, 5 were deceased at the time of the listing, and 14 could not be located by trace letters to all available sources. On October 13, 1958, the questionnaires, one-tenth of which contained supplementary forms, were mailed to the revised total of 3356 individuals.

The response was good. In the first five weeks, approximately 65 percent had returned completed questionnaires. On November 21, 1958, a follow-up letter was sent to those not yet responding, and on December 19, 1958, a final follow-up letter containing another blank questionnaire was mailed. The official cut-off date for inclusion in the tabulation was March 4, 1959.

The original sample and the questionnaire returns may be broken down as follows:

Number of individuals in original sample--the grand total of all lists provided by the universities	3375
Number of deceased individuals on original lists	5
Number of individuals on original lists whose addresses were unavailable and unattainable	14
Number of individuals on original lists found to have received the degree outside the specified time limits (approximately)	119
Number of individuals in the revised sample total	3237
Number of questionnaires returned	2870
Number of dead letters and refusals to participate	189
Number of responses after cut-off date	20
Number of responses indicating receipt of degree outside specified time limits	119
Number of usable responses	2542

The percentage of returns of the supplementary forms was somewhat less than that of the questionnaires. Since the form was sent to every tenth person, the expected number of usable returns was 254. The number actually returned in usable form was 229.

As indicated in the sample breakdown above, a number of returns had to be removed. Respondents and institutions often disagreed as to the date the degree was granted. It appears that individuals and institutions use a different point of reference on this matter. For example, in response to the question, "When was your degree conferred?" many individuals gave the month and year their work was completed, while the institutions reported the commencement date on which the degree was conferred. Unfortunately, this introduced error into the study. To minimize this, it was decided to exclude all questionnaires in which the degree date was listed by the respondent as being prior to September 1956 or after September 1958. Under these criteria, 119 questionnaires needed to be removed. The distribution of respondents, by year of degree, is presented in Table 2.[a]

A summary of the responses by institutions, together with the percentage of returns from each institution, is given in Table 1. The percentage of returns in general was good, and the variation between schools was relatively small. Only one major institution fell below a 60-percent return, and several reached 100 percent. The poorest return was 30 percent from an institution contributing only 10 individuals to the sample. Table 1 further indicates that the great majority of doctoral degree recipients came from relatively few universities. If the list of participating institutions is divided into two groups (a) those contributing 20 or more individuals to the working sample, and (b) those contributing less than 20, the former group represents slightly more than 40 percent of the institutions, but it contributed over 85 percent of the individuals to the sample. The two most productive institutions alone contributed over 25 percent of the sample population.

The reader should be reminded again that the data have been tabulated in several ways. First, the data from all institutions were tabulated over all items--the mass data. Second, a selected number of items were tabulated according to degree received--Ph.D. or Ed.D. Third, all data were tabulated across institutions. Fourth, selected items were tabulated across major fields. Fifth, some data were tabulated across a time dimension--the supplementary form. If for a given item all five tabulations were involved, interpretation is made on the basis of all five. If no mention is made of a method of tabulation, the reader may assume that no such tabulation was made on that item.

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[a] Tables are placed at the ends of the chapters.

The findings regarding the awarding of Ed.D. and Ph.D. degrees were interesting. The Ed.D. was awarded to 1677 individuals; the Ph.D. to 865 individuals--a ratio of two to one (see Table 3). These over-all figures, however, obscure the fact that relatively few institutions grant Ed.D.'s and Ph.D.'s in this proportion. In general, either one degree or the other is emphasized in a given institution. In fact, 44 institutions granted one degree to the exclusion of the other, while another 22 institutions granted one degree more frequently than the other in a ratio exceeding 85 to 15.[1] Some institutions are restricted to the granting of a single doctoral degree. However, when both degrees were offered, either formal policy or some kind of informal pressure seemed to operate to direct candidates toward one degree to the exclusion of the other. These data do not support assumptions that students have freedom of choice in degree selection.

The major fields or areas of specialization were widely varied. To do justice to the variety, it was necessary to use 80 distinct categories in coding the specialties (see Appendix A, Table C). It would seem as if some colleges of education operate a highly flexible program and co-operate with many other departments of the university in order to permit the design of specialized individual programs. While, in general, this kind of policy may be desirable, it admits individuals into the program who have no interest in the field of education per se. Evidence of this was found in questionnaires returned by individuals refusing to participate. For example, consider these notes: "I am not in the field of education nor did I at any time consider my undergraduate or graduate work to be leading toward educational work..." or "...no longer in teaching field and my degree was in clinical psychology." Yet the doctorates held by these individuals were conferred through departments of education. This is true of those who listed their majors as psychology or clinical psychology. As will be noted later in the report, majors in clinical psychology constituted a distinct group which deviated from the "average" pattern in nearly every respect.

The largest single major area subgroup (i.e., major field) was school administration, which constituted 22.9 percent of the total group. Following this was educational psychology with 5.9 percent, elementary education with 5.1 percent, guidance with 4.8 percent, and secondary education with 3.9 percent. In order to discuss major fields without referring to 80 different specialties, 15 categories were defined in which could be included 56 of the major areas. This procedure made it possible to place 82.2 percent, or 2089 individuals, in these 15 categories which hereafter will be referred to as major fields (see Table 4 for classification).

Major field might seem an objective kind of thing, but it became apparent while tabulating the data that the major field, as listed by the respondent, was more a perception of self than a divisional name used by some department of education. To check this observation, the major field reported for each graduate by the institution was compared with the major field listed by each respondent. Some of the results are interesting. According to the institutional reports, 186 persons majored in educational psychology, but only 149 individuals listed themselves as having majored in this area; 140 persons majored in secondary education, but only 99 listed themselves as having majored in this area. On the other hand, only 56 individuals majored in clinical psychology, but 98 respondents listed themselves as having majored in clinical psychology. The direction of change seemed to be away from areas which might be termed "professional education" into more "academic" areas. For example, the secondary education majors listed themselves in social studies or some other subject field, and the educational psychologists and some guidance majors perceived themselves as psychologists. A summary of the major discrepancies between institutional listing and self-perception is presented in Table 5.

The major fields showed definite trends toward one degree or the other (see Table 6). These differences become quite apparent if one establishes norms on the basis of total Ed.D.'s and Ph.D.'s awarded, as reported in Table 3. For example, the expected percent of Ed.D. recipients was 66, but the actual totals for certain areas were as follows: school administration, 85.8 percent; secondary education, 81.8 percent; curriculum, 80.9 percent; elementary education, 76.9 percent. We see similar deviations for Ph.D.'s. The expected percent of recipients was 34, but actual totals were as follows: clinical psychology, 87.8 percent; educational psychology, 76.5 percent; social foundations, 57.1 percent; mathematics or science education, 48.1 percent. These data seem to indicate that, in general, the Ed.D. degree is being used as it was designed, that is, as a professional degree for the practitioners in the field of education. Many of the exceptions can be attributed to institutions which grant only one degree, or place a strong emphasis on one degree at the expense of the other.

Institutions apparently vary markedly as to which major fields are offered or emphasized. For instance, in the 38 highest producing institutions, the number of graduates who majored in administration ranged from 57.6 percent to 1.7 percent of the total. If the lowest producing institutions had been included, the range would have been from 100 percent to 0 percent. The same is true in other of the more common specialties.

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[1] Since this Inquiry is committed to a policy of preserving institutional anonymity, certain data are presented for which no tables appear. This denies the reader the opportunity to develop his own interpretation. However, such findings will be presented because of their value in establishing points of contact with the institutional phase of the study.

TABLE 1.--QUESTIONNAIRE RETURN, BY INSTITUTIONS, IN RANK ORDER OF THE NUMBER OF LISTED GRADUATES BETWEEN SEPTEMBER 1956 AND SEPTEMBER 1958

Rank	Institution	No. of degrees listed by institution	Deceased	Address unknown	No. of accessible degree holders	Degree received outside specified period	Effective sample	Total tabulated	Percent of effective sample tabulated
1	2	3	4	5	6	7	8	9	10
1	Teachers College, Columbia University	584	...	...	584	14	570	419	73.5%
2	New York University	305	...	...	305	4	301	222	73.8
3	Indiana University	156	...	...	156	24	132	77	58.3
4	Stanford University	105	...	...	105	3	102	75	73.5
5	University of Southern California	99	...	...	99	2	97	77	79.4
6	Pennsylvania State University	89	...	...	89	...	89	56	62.9
7	Ohio State University	82	...	...	82	...	82	57	69.6
8	University of Michigan	77	1	...	76	1	75	59	78.7
9	Harvard University	76	...	...	76	...	76	57	75.0
10	George Peabody College for Teachers	75	...	...	75	...	75	60	80.0
11.5	University of Minnesota	65	...	...	65	...	65	58	89.2
11.5	University of Pittsburgh	65	1	...	64	...	64	57	89.1
13	University of Texas	63	...	...	63	...	63	48	76.2
14	University of Illinois	59	...	...	59	2	57	50	87.7
15	Boston University	57	...	2	55	...	55	47	85.5
16	University of Wisconsin	54	...	...	54	11	43	35	81.4
17.5	Colorado State College	53	...	...	53	...	53	48	90.6
17.5	State University of Iowa	53	...	...	53	3	50	46	92.0
19.5	University of Oklahoma	51	...	...	51	...	51	39	76.5
19.5	Northwestern University	51	1	...	50	14	36	30	83.3
21	University of Nebraska	50	...	...	50	1	49	45	91.8
22	Michigan State University	49	...	...	49	...	49	46	93.9
23.5	University of California (Berkeley)	45	...	1	44	...	44	37	84.1
23.5	University of Missouri	45	...	...	45	...	45	37	82.2
25.5	University of Denver	42	...	...	42	...	42	33	78.6
25.5	University of California (Los Angeles)	42	...	2	40	...	40	40	100.0
27	University of Chicago	41	1	...	40	...	40	29	72.5
28	Syracuse University	40	...	...	40	...	40	36	90.0
29	University of Pennsylvania	37	...	...	37	11	26	22	84.6
30	University of Colorado	35	...	...	35	...	35	33	94.3

00014

TABLE 1.--QUESTIONNAIRE RETURN, BY INSTITUTIONS, IN RANK ORDER OF THE NUMBER OF LISTED GRADUATES BETWEEN SEPTEMBER 1956 AND SEPTEMBER 1958 (Continued)

Rank 1	Institution 2	No. of degrees listed by institution 3	Deceased 4	Address unknown 5	No. of accessible degree holders 6	Degree received outside specified period 7	Effective sample 8	Total tabulated 9	Percent of effective sample tabulated 10
31	University of Oregon	33	...	...	33	4	29	25	86.2%
33	Temple University	30	...	...	30	...	30	23	76.7
33	University of Connecticut	30	...	...	30	...	30	25	83.3
33	University of North Carolina	30	...	...	30	3	27	22	81.5
35	University of Maryland	29	...	...	29	1	28	21	75.0
36	University of Kansas	28	...	2	26	...	26	22	84.6
37	Fordham University	26	...	...	26	...	26	19	73.1
38.5	Wayne State University	24	...	...	24	...	24	22	91.7
38.5	University of Houston	24	...	...	24	1	23	18	78.3
40	University of Tennessee	23	...	...	23	...	23	23	100.0
41	Cornell University	22	...	...	22	...	22	12	54.5
43	Oklahoma State University	21	...	...	21	1	20	16	80.0
43	University of Buffalo	21	...	2	19	...	19	16	84.2
43	Rutgers University	21	...	...	21	1	20	14	70.0
45	Catholic University of America	20	...	...	20	...	20	10	50.0
46	University of Arkansas	18	...	2	16	1	15	15	100.0
47.5	University of Virginia	16	...	...	16	...	16	14	87.5
47.5	University of Florida	16	...	...	16	...	16	16	100.0
49	Florida State University	15	...	...	15	...	15	10	66.7
50	Texas Woman's University	14	...	...	14	...	14	12	85.7
54.5	Auburn University	12	...	...	12	...	12	11	91.7
54.5	Louisiana State University	12	...	...	12	...	12	9	75.0
54.5	Western Reserve University	12	...	2	10	...	10	10	100.0
54.5	Texas Technological College	12	...	...	12	...	12	11	91.7
54.5	University of Wyoming	12	...	...	12	...	12	12	100.0
54.5	University of Alabama	12	1	...	11	1	10	3	30.0
58.5	University of Mississippi	11	...	...	11	...	11	11	100.0
58.5	Oregon State College	11	...	...	11	1	10	9	90.0
60.5	University of Kentucky	10	...	1	9	...	9	9	100.0
60.5	University of North Dakota	10	...	...	10	...	10	10	100.0
64	University of Utah	9	...	...	9	...	9	5	55.6
64	Loyola University (Chicago)	9	...	...	9	3	6	4	66.7
64	Purdue University	9	...	...	9	...	9	8	88.9
64	Saint Louis University	9	...	...	9	5	4	4	100.0
64	North Texas State College	9	...	...	9	...	9	7	77.8

00015

TABLE 1.--QUESTIONNAIRE RETURN, BY INSTITUTIONS, IN RANK ORDER OF THE NUMBER OF LISTED GRADUATES BETWEEN SEPTEMBER 1956 AND SEPTEMBER 1958 (Continued)

Rank	Institution	No. of degrees listed by institution	Deceased	Address unknown	No. of accessible degree holders	Degree received outside specified period	Effective sample	Total tabulated	Percent of effective sample tabulated
1	2	3	4	5	6	7	8	9	10
68	Washington University (Saint Louis)	8	...	...	8	1	7	6	85.7%
68	Yeshiva University	8	...	...	8	...	8	6	75.0
68	Iowa State Univ. of Science and Technology	8	...	...	8	1	7	7	100.0
71.5	University of Georgia	7	...	...	7	...	7	6	85.7
71.5	George Washington University	7	...	...	7	...	7	7	100.0
71.5	Johns Hopkins University	7	...	...	7	2	5	4	80.0
71.5	Duke University	7	...	...	7	...	7	5	71.4
74.5	University of Cincinnati	5	...	...	5	...	5	4	80.0
74.5	University of Tulsa	5	...	...	5	...	5	2	40.0
77.5	Arizona State University	4	...	...	4	1	3	3	100.0
77.5	Claremont Graduate School	4	...	...	4	...	4	3	75.0
77.5	Springfield College	4	...	...	4	...	4	3	75.0
77.5	Baylor University	4	...	...	4	...	4	4	100.0
81.5	College of the Pacific	3	...	...	3	...	3	3	100.0
81.5	Bradley University	3	...	...	3	...	3	3	100.0
81.5	Utah State University	3	...	...	3	...	3	2	66.7
81.5	West Virginia University	3	...	...	3	...	3	3	100.0
84.5	University of Notre Dame	2	...	...	2	...	2	2	100.0
84.5	University of South Carolina	2	...	...	2	...	2	2	100.0
88.5	University of Arizona	1	...	...	1	...	1	1	100.0
88.5	Radcliffe College	1	...	...	1	...	1	1	100.0
83.5	Montana State College	1	...	...	1	...	1	1	100.0
88.5	Montana State University	1	...	...	1	...	1	0	0.0
88.5	St. John's University (Brooklyn)	1	...	...	1	...	1	0	0.0
88.5	North Carolina College (Durham)	1	...	...	1	...	1	1	100.0
	Total	3375	5	14	3356	119	3237	2542	78.5%

NOTE: The discrepancies between the above table and Table 9, Volume II, can be accounted for by the differences reported in the original data. Questionnaires covering each of the two phases of the study were sent on different dates directly to institutions conferring doctoral degrees in education. The two tables indicate that sometimes data provided by an institution for each of the phases were not always in agreement.

TABLE 2.--YEAR THE DOCTORATE WAS AWARDED

Year	Number	Percent
1	2	3
1956	224	8.8%
1957	1143	45.0
1958	1167	45.9
1959	5[a]	0.2
Uncertain	3	0.1
Total	2542	100.0%

[a] These 5 individuals completed requirements for the degree within the time specified in the study. However, due to scheduling of commencement exercises the degrees were not officially conferred until 1959.

TABLE 3.--DISTRIBUTION OF ED.D. AND PH.D. DEGREES

Degree	Number	Percent
1	2	3
Ed.D.	1677	66.0%
Ph.D.	865	34.0
Total	2542	100.0%

TABLE 4.--CATEGORIES INTO WHICH MAJOR FIELDS WERE CLASSIFIED FOR TABULATION

Major Field categories	Number
1	2
1. Special education	
Administration of special education	6
Reading	10
School psychology	3
Special education	27
Speech pathology	4
Total	50
2. Administration	
Elementary	23
General	581
Secondary	17
Total	621
3. Curriculum	
Curriculum and supervision	24
Curriculum and teaching	43
Elementary	7
General	41
Total	115
4. Physical education	
Administration of physical education	14
Camping	2
General	70
Health education	18
Safety education	3
Total	107

TABLE 4.--CATEGORIES INTO WHICH MAJOR FIELDS WERE CLASSIFIED FOR TABULATION (Continued)

Major Field categories	Number
1	2
5. Practical arts	
Agriculture education	8
Business education	46
Home economics	24
Industrial arts	33
Nursing education	4
Nutrition	2
Vocational education	11
Total	128
6. Social foundations	
History and philosophy of education	21
History of education	13
Philosophy of education	29
Total	63
7. Subject areas	
Anthropology	2
Art education	13
Dramatic arts	5
English	20
Fine arts	10
Foreign language	2
Language arts	7
Music education	63
Social studies	34
Speech	8
Total	164
8. Mathematics or science education	
Mathematics education	26
Science education	51
Total	77
9. Educational psychology	149
10. Secondary education	99
11. Elementary education	130
12. Higher education	71
13. Guidance	
General	121
Guidance and counseling	52
Total	173
14. Clinical psychology	
Counseling	4
Counseling psychology	32
General	62
Total	98
15. Student personnel administration	44
16. All other	453
Total of all categories	2542

TABLE 5.--ACADEMIC MAJORS, SOME DISCREPANCIES BETWEEN THE REPORTS BY INDIVIDUALS AND INSTITUTIONS

Major field	Reported by respondents	Reported by institutions	Discrepancy
	Number	Number	Number
1	2	3	4
Clinical psychology	98	56	42
Educational psychology	149	186	37
Secondary education	99	140	41

TABLE 6.--DISTRIBUTION OF PH.D.'S AND ED.D.'S, BY MAJOR FIELDS

Major Fields	Ph.D. Percent	Ed.D. Percent	Number
1	2	3	4
Special education	36.0%	64.0%	50
Administration	14.2	85.8	621
Curriculum	19.1	80.9	115
Physical education	25.2	74.8	107
Practical arts	32.8	67.2	128
Social foundations	57.1	42.9	63
Subject areas	31.1	68.9	164
Mathematics or science education	48.1	51.9	77
Educational psychology	76.5	23.5	149
Secondary education	18.2	81.8	99
Elementary education	23.1	76.9	130
Higher education	26.8	73.2	71
Guidance	35.8	64.2	173
Clinical psychology	87.8	12.2	98
Student personnel administration	25.0	75.0	44

Chapter III

THE SAMPLE CHARACTERIZED

We frequently expect groups to be homogeneous with respect to a number of traits. Stereotyping is common. It is expected that persons who get doctoral degrees in the field of education will be somewhat alike. Great differences also exist, however.

The ratio of males to females in the sample was approximately four to one (79.7 to 20.3). Chi-square analysis shows a significantly ($p < .05$) higher proportion of women taking the Ph.D. degree than the Ed.D. degree (see Table 7). As might be expected, some major fields seemed to attract greater or lesser numbers of women than other fields (see Table 8). For example, in administration only 6 percent were women; in social foundations, 12.7 percent; and in secondary education, 16.2 percent. On the other hand, in curriculum 37.4 percent were women; in the practical arts, 34.6 percent; in elementary education, 33.1 percent; and in physical education, 30.8 percent. These figures should be evaluated relative to the growing view that women constitute a pool of talent not yet sufficiently exploited.

The median year of birth of the respondents was 1919. This means that at the time the degree was conferred to persons in this sample, half of them were 38 or 39 years of age, or older. The years of birth extend from 1886 to 1933--a range of 47 years (see Table 9). The interquartile range is 11 years (1913-24), meaning that one-fourth of the sample was born prior to 1913 and one-fourth after 1924. It is an evaluative interpretation, but it does seem that a sizable group from this sample can contribute only a limited number of their most productive years to the field of education. The Ph.D. group as a whole is slightly more than two years younger than the Ed.D. group, a difference which is statistically significant ($p < .01$) (see Table 10).

Using only the 38 institutions which contributed at least 20 graduates each to the sample, the median year of birth, by institutions, varies from 1914 to 1923--a range of 9 years.1/ While this range is not great, the pattern into which the institutions fall, as ordered on this item, becomes very interesting when related to institutional order on certain other factors in the degree programs. For instance, a correlation of .51 results between age ranks by institutions and median length of program, indicating that greater age tends to accompany longer programs. A correlation of .39 results between proportion of students having critical periods and age.2/ A correlation of .44 was found between age and proportion of graduates holding public-school positions in 1958-59, possibly indicating that the older graduates tend to go more toward public-school than college positions. A correlation of .71 results between age and the proportion of students holding assistantships (with reversed ranks), probably indicating either that institutions tend not to award assistantships to older students or that older students have less need of them or accept them less often than do younger students. For this sample, there is no correlation, however, between age and proportion of students holding scholarships and fellowships. This suggests that if the former correlation (assistantships and age) is the result of institutional policy, those policies do not apply to scholarships and fellowships. Another interpretation of the age-assistantship correlation, and one possibly more realistic, is simply that younger students are not attracted to institutions that award only a few assistantships, whereas institutions offering large numbers of scholarships and fellowships attract young and old alike.

Numerous kinds of community backgrounds are represented (see Table 11). Large cities produced 29.9 percent of the total group; villages, 15 percent; and rural areas, 14 percent. As a group, the Ph.D.'s are statistically independent of the Ed.D.'s in this respect ($p < .001$). The greater portion of the Ed.D.'s were reared in rural communities, villages, and nonsuburban towns, as contrasted with the Ph.D.'s, whose early lives tended to be spent in large cities (see Table 12). If the sum of the proportions of the sample originating in rural areas and villages is used as an index of community background, it would be expected that 29 percent of any subgroup would have this background. However, among major fields, it becomes apparent that considerable variation existed. Only 8.1 percent of the clinical psychologists, 15 percent of physical education majors, 16 percent of special education majors, 15.9 percent of social foundations majors, and 18.2 percent of the mathematics or science majors come from rural and village backgrounds (see Table 13). On the other hand, 42.2 percent of practical arts majors, 39.2 percent of elementary education majors, and 36.4 percent of the administration majors were

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1/ The decision to use only the 38 institutions contributing 20 or more individuals to the sample was made to reduce the possibility of spurious comparisons. For instance, on any given item of the questionnaire, a certain percent of an institution's graduates responded to a specific category. Given these percents, the institutions can be ranked accordingly. However, institutions having few respondents produce percents of extremely high or low magnitude which adversely affect the validity of the rankings. To minimize this effect, institutions producing less than 20 respondents are omitted from institutional comparisons.

2/ A "critical period" is defined in this report as a period in which the doctoral program was temporarily discontinued because of adverse conditions. (See page 44.)

reared in this type of community. For the 38 highest producing institutions, the proportion of graduates reared in rural and village communities varied from 64 percent to 11.3 percent. In general, the institutions located in large metropolitan areas drew students from large city background, but there were a sufficient number of exceptions among institutions to preclude high correlation.

Forty-nine of the states, the District of Columbia, Puerto Rico, and a large number of foreign nations are represented in the sample. Table 14 was designed to investigate the question of whether or not these education graduates tended to represent specific states or regions of the country. An equally interesting question concerns the relationship of actual to expected state contributions to this population of academicians. To examine this relationship, states were ranked according to population as recorded in the 1920 census of the United States.[3] (This was close to the median year of birth, 1919.) The states were ranked again according to their contribution of births to the total sample. This made it possible to see the amount of variation between actual and expected contributions. A deviation of ±5 was taken arbitrarily as a critical difference. There were nine states which deviated by five or more ranks in a negative direction, and nine more states which deviated this much in the positive direction. In the list of "underproducing" and "overproducing" states which follows, the order, reading down in each column, is from most to least extreme deviation:

Underproducing states	Overproducing states
Kentucky	Utah
Georgia	Nebraska
Louisiana	Kansas
West Virginia	Connecticut
Florida	Iowa
Virginia	Colorado
Missouri	Washington
South Carolina	Oklahoma
North Carolina	South Dakota

It is immediately apparent that all of the underproducing states are in a group generally referred to as the "southern" states. The overproducing states do not form a unitary group but seven of the nine are part of what may be referred to as the "great plains" states. Connecticut and Washington do not fit this pattern. Why did it happen this way? The question is perhaps a sociological one, and the answer, also. This study does not attempt to seek solutions, although the solution may have significance for the purpose of this study. At a superficial level, it may be that the explanation lies in the kinds of social structure in the various regions plus the relative emphases on social mobility in the mores of these regions. However, to generalize about regions is not wholly justified because there were southern states which were not underproducers, and great plains states which were not overproducers. Institutions among the 38 largest producers vary widely in the proportion of graduates who were born in the state; the range is from 78.3 percent to 2.1 percent.

In general, the fathers of the respondents were engaged in the so-called "blue-collar" and "white-collar" occupations, but a sizable block was engaged in professional, semiprofessional, or managerial activities (see Table 15). Surprisingly, only a very small group was associated with the field of education, either as teachers (4.2 percent) or nonteachers (1.4 percent). As would be expected, the fathers of the individuals in this sample do not represent an accurate occupational cross section of the country as a whole, being considerably higher in the occupational hierarchy. Table 16 gives a comparison between the occupational status of fathers of this group and fathers of the labor force as a whole. If one uses distributions within the total labor force as his basis for comparison of these fathers with fathers in general, he notes that the proportion of these fathers in professional, clerical, sales, and agriculture is considerably greater than would be expected. He notes, also, that the proportion of these fathers from semiskilled and unskilled groups is much less than would be expected. The fact that the fathers of the sample did not represent a national average could have been anticipated, for this sample is a highly select group. However, it would be interesting to compare this sample with a similar sample of doctoral recipients from fields other than education. In any case, since each respondent is now a member of the professional occupational group, it is obvious that the sample has evidenced high social mobility. The occupational status of fathers of the Ph.D.'s tends to differ from that of fathers of the Ed.D.'s ($p < .10$). The former are concentrated somewhat more in professional, clerical, and sales work (see Table 17). Among the major fields, practical arts and elementary education majors have a low proportion of fathers from the professional group; they have a high proportion of fathers from the agricultural group. Clinical psychologists have a high proportion of fathers from the professional group (31.6 percent), none from agriculture, and a high proportion from the skilled labor group (21.4 percent). Student personnel administration majors also evidence a high percentage of professional fathers (34.1 percent) and fathers involved in skilled labor (22.7 percent) (see Table 18).

Institutions varied widely as to the proportion of students enrolled from the various occupational backgrounds. Enrollments from professional, semiprofessional, and managerial backgrounds ranged from 35.1 percent to 8 percent; from agricultural backgrounds, the range was from 45.8 percent to 0.0 percent; and from skilled labor backgrounds, the range was from 32 percent to 3 percent. Institutional prestige may be the basis for discrimination between colleges by students from homes representing the upper end of the occupational scale. For students from agricultural or trade backgrounds, this discrimination may be based upon accessibility to and/or familiarity with the setting in which the institution is located.

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[3] U.S. Department of Commerce, Bureau of the Census. Fourteenth Census of the United States Taken in the Year 1920: vol. I. Population, 1920: Number and Distribution of Inhabitants, Table 8, p. 16. Washington, D.C.: Government Printing Office, 1921.

Mothers, in general, were not engaged in the occupations; the large majority, 76.5 percent, were listed as housewives (see Table 19), and no differences resulted from Ed.D.-Ph.D. comparisons.

The educational level attained by the parents was commensurate with the occupational levels they achieved. In the total group, only 15.4 percent of the fathers and 8.3 percent of the mothers had received college degrees (see Tables 20 and 21). Among those with degrees, 1.6 percent of the fathers and 0.2 percent of the mothers had received doctor's degrees. The respondents seem to have surpassed the educational accomplishments of their parents in approximately 99 percent of the cases. When one looks at the other end of the educational scale, he notes that 62.8 percent of the fathers and 63.3 percent of the mothers did not complete high school (see Tables 20 and 21). This may suggest that the parents as a whole had a poor educational background. But such may not have been the case, for these facts must be considered in their appropriate time and place.

The highest proportion of fathers with less than a high-school education was reported by social foundations majors (71.4 percent). Clinical psychologists reported the fewest fathers with less than a high-school degree (49 percent). All other major fields were near the mean in this respect, and Ph.D.-Ed.D. comparisons show no differences on either fathers' or mothers' education. In the 38 high producing institutions, the proportion of fathers with less than a high-school education ranges from 84 percent to 47.5 percent (see Table 22).

Approximately 80.3 percent of the respondents were married. The year of marriage ranged from 1913 to 1959. The median year of marriage was 1945. One-half of the marriages occurred between 1941 and 1950 (see Table 23). Most married students reported one to three children. The median was two. Approximately 10.4 percent of the married individuals were childless. Pursuit of the doctoral degree in education seemed most often to be a family enterprise (see Table 24 and Appendix A).

Unlike parental education which appears low by present standards, the academic attainment of spouses was high (see Table 25). Although only 2.7 percent had received a doctorate, 61.9 percent had at least a bachelor's degree, 19 percent had received a master's or first professional degree, and 84.5 percent had completed some college training. Among the spouses who had received college degrees, 24.8 percent had majored in some aspect of education; 14.3 percent, in the humanities; 11.5 percent, in a technical or vocational field; and 8.8 percent, in social science (see Table 26).

The degree level of spouses appears to be approximately the same for respondents from each of the major fields. If, however, one uses 62 percent as a norm for his expectations relative to the proportion of spouses who hold a minimum of the baccalaureate degree, he does note that spouses of social foundations majors exceed the norm by a considerable margin. He notes, also, that spouses of majors in secondary education fall considerably short of the norm (see Table 27 and Appendix A).

More than one-half, actually 52.5 percent, of the spouses had engaged in some kind of occupation during the respondents' doctoral programs. Table 28 indicates that 22.8 percent had taught, 12.1 percent were involved in clerical or sales work, and 11.1 percent had done professional, semiprofessional, or managerial work.

TABLE 7.--DISTRIBUTION OF PH.D. AND ED.D. DEGREES
BETWEEN MALE AND FEMALE RESPONDENTS

Respondents	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Male	663	76.6%	1364	81.3%	2027	79.7%
Female	202	23.4	313	18.7	515	20.3

TABLE 8.--DISTRIBUTION OF MALE AND FEMALE RESPONDENTS, BY MAJOR FIELDS

Major field	Male Percent	Female Percent	Number
1	2	3	4
Special education	76.0%	24.0%	50
Administration	94.0	6.0	621
Curriculum.	62.6	37.4	115
Physical education	69.2	30.8	107
Practical arts	66.4	34.6	128
Social foundations	87.3	12.7	63
Subject areas.	79.9	20.1	164
Mathematics or science	80.5	19.5	77
Educational psychology	79.9	20.1	149
Secondary education	83.8	16.2	99
Elementary education	66.9	33.1	130
Higher education	73.2	26.8	71
Guidance	75.1	24.9	173
Clinical psychology	78.6	21.4	98
Student personnel administration. .	75.0	25.0	44

TABLE 9.--YEAR OF BIRTH

Year	Number	Year	Number	Year	Number	Year	Number
1	2	3	4	5	6	7	8
1886	1	1903	15	1914	146	1925	134
1890	1	1904	12	1915	101	1926	119
1893	1	1905	36	1916	127	1927	93
1895	3	1906	39	1917	111	1928	68
1896	5	1907	52	1918	141	1929	61
1897	2	1908	59	1919	120	1930	39
1898	6	1909	60	1920	152	1931	17
1899	8	1910	74	1921	149	1932	10
1900	10	1911	70	1922	128	1933	3
1901	7	1912	112	1923	101	Unknown	1
1902	19	1913	71	1924	104	Total	2542

TABLE 10.--YEAR OF BIRTH AND KIND OF DEGREE

Year of Birth	Ph.D. Number	Ph.D. Percent	Ed.D. Number	Ed.D. Percent	Total Number
1	2	3	4	5	6
Before 1899. .	6	0.6%	13	0.8%	19
1899-1903. . .	15	1.7	44	2.1	59
1904-1908. . .	38	4.4	160	9.6	198
1909-1913. . .	98	11.4	289	17.3	387
1914-1918. . .	179	20.7	401	23.9	580
1919-1923. . .	241	27.8	409	24.4	650
1924-1928. . .	217	25.0	301	17.9	518
1929-1933. . .	71	8.0	59	3.6	130
Unknown. . . .	0	0.0	1	0.1	1
Total . . .	865	100.0%	1677	100.0%	2542

TABLE 11.--COMMUNITY BACKGROUND

Community background	Number	Percent
1	2	3
Rural	356	14.0%
Village (under 2,500)	382	15.0
Town, no suburb (2,500-10,000)	366	14.4
Town, suburb (2,500-10,000)	92	3.6
Small city, no suburb (10,000-100,000)	446	17.5
Small city, suburb (10,000-100,000)	121	4.8
Large city (over 100,000)	759	29.9
No response	20	0.8
Total	2542	100.0%

TABLE 12.--KIND OF DEGREE, BY COMMUNITY BACKGROUND

Community background	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Rural	96	11.1%	260	15.5%
Village (under 2,500)	106	12.3	276	16.5
Town, no suburb (2,500-10,000)	103	11.9	263	15.7
Town, suburb (2,500-10,000)	27	3.1	63	3.9
Small city, no suburb (10,000-100,000)	152	17.6	294	17.5
Small city, suburb (10,000-100,000)	42	4.9	79	4.7
Large city (over 100,000)	334	38.6	425	25.3
No response	5	0.5	15	0.9
Total	865	100.0%	1677	100.0%

TABLE 13.--COMMUNITY BACKGROUND, BY MAJOR FIELDS

Major field	Rural	Village	Town, no suburb	Town, suburb	Small city, no suburb	Small city, suburb	Large city	No response	Number
1	2	3	4	5	6	7	8	9	10
Special education	6.0%	10.0%	10.0%	8.0%	16.0%	14.0%	36.0%	...	50
Administration	18.0	18.4	15.5	3.9	15.1	4.7	23.3	1.1%	621
Curriculum	19.1	11.3	19.1	2.6	15.7	4.3	27.0	0.9	115
Physical education	7.5	7.5	14.0	8.4	15.9	8.4	38.3	...	107
Practical arts	25.0	17.2	18.0	2.3	14.8	3.1	18.0	1.6	128
Social foundations	4.8	11.1	12.7	7.9	11.1	4.8	47.6	...	63
Subject areas	7.9	18.3	14.6	2.4	18.9	6.1	31.1	0.6	164
Mathematics or science	9.1	9.1	10.4	3.9	22.1	6.5	39.0	...	77
Educational psychology	12.1	15.4	8.1	2.0	20.1	3.4	38.3	0.7	149
Secondary education	14.1	20.2	16.2	3.0	22.2	4.0	20.2	...	99
Elementary education	22.3	16.9	20.8	3.1	17.7	1.5	17.7	...	130
Higher education	11.3	12.7	11.3	1.4	31.0	2.8	26.8	2.8	71
Guidance	13.9	13.3	9.2	2.9	20.8	6.4	31.2	2.3	173
Clinical psychology	1.0	7.1	9.2	4.1	11.2	3.1	64.3	...	98
Student personnel administration	6.8	15.9	15.9	4.5	20.5	4.5	29.5	2.3	44

00024

TABLE 14.--DIFFERENCES IN STATES' RANKS WHEN BASED UPON POPULATION IN 1920 AND WHEN BASED UPON ACTUAL CONTRIBUTION OF BIRTHS TO THE SAMPLE

State	1920 population rank	Sample rank	Difference
1	2	3	4
New York	1	1	0
Pennsylvania	2	2	0
Illinois	3	3	0
Ohio	4	4	0
Texas	5	5	0
Massachusetts	6	6	0
Michigan	7	8	- 1
California	8	9	- 1
Missouri	9	15.5	- 6.5[a]
New Jersey	10	10	0
Indiana	11	11	0
Georgia	12	25	-13 [a]
Wisconsin	13	13	0
North Carolina	14	19	- 5 [a]
Kentucky	15	29.5	-14.5
Iowa	16	7	+ 9 [b]
Minnesota	17	17	0
Alabama	18	21.5	- 3.5
Tennessee	19	20	- 1
Virginia	20	27.5	- 7.5[a]
Oklahoma	21	14	+ 7 [b]
Louisiana	22	33.5	-11.5[a]
Mississippi	23	27.5	- 4.5
Kansas	24	12	+12 [b]
Arkansas	25	21.5	+ 3.5
South Carolina	26	31.5	- 5.5[a]
West Virginia	27	38.5	-11.5[a]
Maryland	28	29.5	- 1.5
Connecticut	29	18	+11 [b]
Washington	30	24	+ 7 [b]
Nebraska	31	15.5	+15.5[b]
Florida	32	42.5	-10.5[a]
Colorado	33	26	+ 7 [b]
Oregon	34	33.5	+ .5
Maine	35	33.5	+ 1.5
North Dakota	36	35.5	+ .5
South Dakota	37	31.5	+ 5.5[b]
Rhode Island	38	41	- 3
Montana	39	38.5	+ .5
Utah	40	23	+17 [b]
New Hampshire	41	39.5	+ 1.5
District of Columbia	42	44.5	- 2.5
Idaho	43	38.5	+ 4.5
New Mexico	44	48.5	- 4.5
Vermont	45	44.5	+ .5
Arizona	46	42.5	+ 3.5
Delaware	47	47	0
Wyoming	48	46	2
Nevada	49	48.5	+ .5

[a] Underproducing states

[b] Overproducing states

00025

TABLE 15.--FATHERS' OCCUPATIONS

Occupational group	Number	Percent
1	2	3
Professional, semiprofessional, or managerial	602	23.7%
Clerical and sales	605	23.8
Service	59	2.3
Agriculture	406	16.0
Skilled labor	396	15.6
Semiskilled or unskilled	208	8.2
Education, teacher	106	4.2
Education, nonteacher	35	1.4
Other	12	0.5
No response	113	4.3
Total	2542	100.0%

TABLE 16.--DISTRIBUTION OF FATHERS' OCCUPATIONS CONTRASTED WITH THE TOTAL MALE LABOR FORCE, 1920 CENSUS

U.S. census categories	Questionnaire categories	Census percent	Sample percent
1	2	3	4
Professional, technical, and kindred workers; managers, officials, and proprietors, excl. farm	Professional, semiprofessional; managerial; education, teacher and nonteacher	20.7%	30.7%
Clerical and kindred workers; sales workers	Clerical and sales	12.1	25.0
Farmers and farm managers; farm laborers and foremen	Agricultural	11.8	16.8
Private household workers; service workers, excl. private household	Service	6.4	2.4
Craftsmen, foremen, and kindred workers	Skilled labor	19.1	16.4
Operators and kindred workers; laborers, excl. farm and mine	Semiskilled and unskilled labor	29.8	8.6

TABLE 17.--FATHERS' OCCUPATIONS, BY PH.D.'S AND ED.D.'S

Occupational group	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Professional, semiprofessional, or managerial	226	26.1%	376	22.4%
Clerical and sales	224	25.9	381	22.7
Service	14	1.6	45	2.7
Agriculture	107	12.4	299	17.8
Skilled labor	124	14.3	272	16.2
Semiskilled or unskilled	77	8.9	131	7.8
Education, teacher	36	4.2	70	4.2
Education, nonteacher	13	1.5	22	1.3
Other	4	0.5	8	0.5
No response	40	4.6	73	4.4
Total	865	100.0%	1677	100.0%

TABLE 18.--FATHER'S OCCUPATIONS, BY MAJOR FIELDS

Major field	Professional, etc.	Clerical and sales	Service	Agriculture	Skilled labor	Semiskilled or unskilled	Teacher	Education, nonteacher	No response	Number
1	2	3	4	5	6	7	8	9	10	11
Special education	24.0%	36.0%	2.0%	8.0%	14.0%	6.0%	6.0%	. . .	4.0%	50
Administration	21.1	17.9	3.1	21.9	16.6	8.1	4.3	2.4%	4.6	621
Curriculum.	25.2	28.7	2.6	18.3	8.7	4.3	4.3	. . .	7.9	115
Physical education.	24.3	25.2	1.9	6.5	23.4	8.4	3.7	. . .	6.5	107
Practical arts	13.3	12.5	3.9	30.5	20.3	8.6	6.3	0.8	3.9	128
Social foundations	27.0	27.0	1.6	7.9	9.5	14.3	3.2	3.2	6.3	63
Subject areas	29.9	29.9	1.8	7.9	14.0	7.9	4.3	0.6	3.6	164
Mathematics or science.	23.4	35.1	2.6	16.9	10.4	3.9	3.9	. . .	3.9	77
Educational psychology.	24.2	26.8	0.7	12.1	15.4	9.4	5.4	2.0	4.0	149
Secondary education	27.3	20.2	. . .	14.1	17.2	11.1	4.0	1.0	5.1	99
Elementary education	16.9	26.9	3.8	26.9	11.5	6.2	3.8	. . .	3.8	130
Higher education.	29.6	21.1	2.8	12.7	12.7	5.6	5.6	2.8	7.0	71
Guidance	22.5	30.1	1.2	11.0	17.9	7.5	2.3	1.2	6.4	173
Clinical psychology	31.6	27.6	2.0	. . .	21.4	12.2	2.0	. . .	3.0	98
Student personnel administration	34.1	20.5	2.3	4.5	22.7	9.1	2.3	2.3	2.3	44

TABLE 19.--MOTHERS' OCCUPATIONS

Occupational group	Number	Percent
1	2	3
Professional, semiprofessional, or managerial	84	3.3%
Clerical and sales	116	4.6
Service.	31	1.2
Agriculture.	4	0.2
Skilled labor	20	0.8
Semiskilled or unskilled	11	0.4
Education, teacher	215	8.5
Education, nonteacher.	3	0.1
Housewife.	1944	76.5
No response	114	4.5
Total	2542	100.0%

TABLE 20.--FATHERS' EDUCATIONAL LEVELS

Educational level	Number	Percent
1	2	3
Elementary (1-8 grades)	1053	41.4%
High school, unfinished	544	21.4
High school graduate	112	4.4
Two years college, or less. . . .	243	9.6
More than two years, no degree	68	2.7
Bachelor's degree	193	7.6
Master's or first professional degree	157	6.2
Doctor's degree.	40	1.6
Other, or listed as deceased. . .	41	1.6
No response	91	3.5
Total	2542	100.0%

TABLE 21.--MOTHERS' EDUCATIONAL LEVELS

Educational level	Number	Percent
1	2	3
Elementary (1-8 grades)	923	36.3%
High school, unfinished	686	27.0
High school graduate	166	6.5
Two years college, or less . . .	292	11.5
More than two years, no degree	121	4.8
Bachelor's degree	168	6.6
Master's or first professional degree	37	1.5
Doctor's degree	4	0.2
Other, or listed as deceased. . .	50	2.0
No response	95	3.6
Total	2542	100.0%

TABLE 23.--YEAR OF MARRIAGE

Year	Number	Year	Number	Year	Number
1	2	1	2	1	2
1913	1	1933	29	1948	106
1917	1	1934	31	1949	97
1920	3	1935	33	1950	122
1921	1	1936	45	1951	102
1922	1	1937	33	1952	74
1923	2	1938	43	1953	64
1924	10	1939	71	1954	52
1925	5	1940	78	1955	50
1926	7	1941	108	1956	46
1927	8	1942	132	1957	34
1928	15	1943	114	1958	21
1929	14	1944	97	1959	1
1930	14	1945	84	Single and no response	500
1931	22	1946	134	Total	2542
1932	20	1947	117		

TABLE 22.--FATHERS' EDUCATIONAL LEVELS, BY MAJOR FIELDS

Major field	Elementary	High school		College		Degree			No response	Number
		Unfinished	Graduate	2 yrs. or less	More than 2 yrs.	B.A., B.S., etc.	M.A., M.S., etc.	Ed.D. or Ph.D.		
1	2	3	4	5	6	7	8	9	10	11
Special education	34.0%	20.0%	4.0%	12.0%	6.0%	4.0%	10.0%	...	10.0%	50
Administration	45.4	20.6	4.0	9.8	2.7	5.5	6.6	1.6%	3.7	621
Curriculum.	42.6	19.1	4.3	12.2	4.3	6.1	5.2	1.7	4.3	115
Physical education.	44.9	21.5	6.5	7.5	0.9	6.5	5.6	0.9	5.6	107
Practical arts	46.1	19.5	3.9	7.8	5.5	2.3	3.9	1.6	9.4	128
Social foundations	52.4	19.0	...	3.2	4.8	9.5	3.2	1.6	6.4	63
Subject areas	38.4	15.9	4.9	13.4	2.4	12.2	6.7	2.4	3.6	164
Mathematics or science.	37.7	28.6	7.8	3.9	1.3	9.1	5.2	1.3	5.2	77
Educational psychology.	40.9	16.8	2.0	13.4	3.4	9.4	7.4	1.3	5.3	149
Secondary education	44.4	24.2	2.0	5.1	1.0	11.1	6.1	1.0	5.1	99
Elementary education	43.1	26.9	3.1	10.0	0.8	6.9	3.8	2.3	3.0	130
Higher education.	32.4	28.2	1.4	5.6	1.4	8.5	11.3	...	11.3	71
Guidance	35.3	31.8	5.2	6.4	2.3	9.2	4.0	0.6	5.2	173
Clinical psychology	34.7	14.3	11.2	10.2	...	9.2	7.1	3.1	10.2	98
Student personnel administration	43.2	18.2	6.8	2.3	4.5	11.4	6.8	4.5	2.3	44

TABLE 24.--NUMBER OF CHILDREN

Number of children	Number of respondents	Of total sample Percent	Of married persons Percent
1	2	3	4
One	428	16.8%	20.9%
Two	710	27.9	34.7
Three	356	14.0	17.4
Four	153	6.0	7.5
Five	45	1.8	2.2
Six	12	0.5	0.6
Seven	4	0.2	0.2
Eight or more	3	0.1	0.1
None	215	8.5	10.4
Single and no response	616	24.2	6.0
Total	2542	100.0%	100.0%

The questionnaire included no item requesting marital status. Therefore the percent in this category are based on our "best estimate" that 2048 individuals in the sample were married. The same figure 2048 was used to obtain the percent of married persons in Tables 25, 26, 27, and 28.

TABLE 25.--EDUCATIONAL LEVELS OF SPOUSES

Educational level	Number	Of total sample Percent	Of married persons Percent
1	2	3	4
Elementary	5	0.2%	0.2%
High school, unfinished	190	7.5	9.3
High school graduate	122	4.8	6.0
Two years college, or less	290	11.4	14.2
More than two years, no degree	172	6.8	8.4
Bachelor's degree	823	32.4	40.2
Master's or first professional degree	389	15.3	19.0
Doctor's degree	58	2.3	2.7
Single and no response	494	19.3	0.0
Total	2542	100.0%	100.0%

TABLE 26.--ACADEMIC MAJORS OF SPOUSES WHO HAD ATTAINED THE BACCALAUREATE OR A HIGHER DEGREE

Major field	Number	Of total sample Percent	Of married persons Percent
1	2	3	4
Education	507	19.9%	24.8%
Biological science	26	1.0	1.3
Physical science	42	1.7	2.1
Social science	181	7.1	8.8
Humanities	293	11.5	14.3
Technical or vocational	236	9.3	11.5
Other	4	0.2	0.2
Inapplicable, no degree	364	14.3	17.8
Single and no response	889	35.0	19.2
Total	2542	100.0%	100.0%

TABLE 27.--LEVEL OF SPOUSES' EDUCATION, BY MAJOR FIELDS, WITH PERCENTAGES CORRECTED FOR UNMARRIED RESPONDENTS

Major field	Elementary	High school		College		Degree			Number	Number
		Unfinished	Graduate	2 yrs. or less	More than 2 yrs.	B.A., B.S., etc.	M.A., M.S., etc.	Ed.D. or Ph.D.	Married	Total
1	2	3	4	5	6	7	8	9	10	11
Special education	...	14.6%	2.4%	9.8%	17.1%	34.1%	19.5%	2.5%	41	50
Administration	0.2%	9.8	5.5	16.0	7.6	45.6	14.6	0.7	563	621
Curriculum	...	5.2	7.8	13.0	7.8	45.4	15.6	5.2	77	115
Physical education	...	9.2	6.6	15.8	5.3	44.7	17.1	1.3	76	107
Practical arts	...	8.3	12.5	11.4	5.2	39.6	20.8	2.2	96	128
Social foundations	...	4.3	2.1	12.8	4.3	48.9	25.5	2.1	47	63
Subject areas	...	10.5	4.8	11.3	8.9	40.3	22.6	1.6	124	164
Mathematics or science	...	8.2	8.2	11.5	6.6	45.9	16.4	3.2	61	77
Educational psychology	0.8	7.6	1.7	11.9	12.7	39.9	23.7	1.7	118	149
Secondary education	...	17.1	7.3	13.4	13.4	30.5	14.6	3.7	82	99
Elementary education	1.0	5.1	5.1	14.3	10.2	39.8	21.4	3.1	98	130
Higher education	2.0	8.0	8.0	12.0	8.0	42.0	18.0	2.0	50	71
Guidance	...	9.5	6.6	17.6	5.1	33.6	23.4	4.2	137	173
Clinical psychology	...	7.4	8.6	12.3	1.2	30.9	28.4	11.2	81	98
Student personnel administration	...	3.1	3.1	6.3	15.6	40.6	28.1	3.2	32	44

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TABLE 28.--OCCUPATIONS OF SPOUSES DURING THE DOCTORAL PROGRAM, WITH PERCENTAGES CORRECTED FOR UNMARRIED RESPONDENTS

Occupational group	Number	Of total Percent	Of married persons Percent
1	2	3	4
Professional, semiprofessional, or managerial	227	8.9%	11.1%
Clerical and sales	248	9.8	12.1
Service	10	0.4	0.5
Agriculture	4	0.2	0.2
Skilled labor	8	0.3	0.4
Semiskilled or unskilled	5	0.2	0.2
Education, teacher	466	18.3	22.8
Education, nonteacher	66	2.6	3.2
Housewife	934	36.7	45.6
No response and single	574	22.6	3.9
Total	2542	100.0%	100.0%

Chapter IV

CIRCUMSTANCES AND EVENTS LEADING UP TO DOCTORAL STUDY

In general, respondents set their ultimate educational goals relatively late in their vocational-educational careers. Conscious aspirations for a doctoral degree were not of long standing. As indicated in Table 29, the modal period for such considerations falls in the category "during the master's program." A majority seemed to make the decision while in school rather than while occupied with teaching or other employment. A significant number did not consider this objective until post-master's graduate study. Chi-square analysis shows that the Ph.D.'s decided to work toward the doctorate significantly earlier than did the Ed.D.'s ($p < .001$).

It would be helpful to be able to distinguish between cause and effect at this point. One wonders whether these students were late in arriving at the decision to work toward doctorates or whether the institutions first showed interest in these students when they were observed doing outstanding work at the master's level. If it was the latter, institutions may take heart in the knowledge that students will respond to suggestions at this relatively late date in their academic careers.

Decisions concerning the doctoral major were usually made prior to the decision to pursue the degree, but no conspicuous modal period is apparent (see Table 30). The Ph.D.'s and Ed.D.'s differed significantly ($p < .001$) as to the time of decision regarding a major, but the difference seemed to be on occupational dimensions rather than on an early-late (time) dimension (see Table 31). The Ph.D.'s tended to decide upon a major while in school; the Ed.D.'s, while teaching. One possible interpretation is that the doctoral major arose out of vocational pursuits in the case of the Ed.D.'s and out of academic pursuits in the case of the Ph.D.'s.

Respondents perceived their former professors and professional colleagues as influential in their decisions to enter the doctoral program with former professors most often cited as the most influential persons. The respondent's spouse was often cited as being influential, but seldom decisively so. A significant number denied the influence of others on their decision to enter the program, indicating unaided self-motivation (see Table 32). The Ed.D.'s indicated a significantly greater influence on the part of their spouse than did the Ph.D.'s ($p < .001$) (see Table 33). Employers, also, seemed to have had more influence on the Ed.D.'s, a finding consistent with other observations which also suggest vocational or professional orientation for Ed.D.'s (see Table 34).

An attempt was made to discover common aspirations and values which might be used to describe the motivation which prompts entrance into a doctoral program, but these efforts produced no conclusive results. Most individuals did not cite dominant motives, checking instead a complex of aspirations (see Table 35). This could mean that the individuals in fact were responding to different patterns of motives. It is also quite likely that individuals perceived some motives as less acceptable than others. For example, although one-third of the sample checked a desire for prestige, only 2.4 percent granted this motive significant status. On the other hand, the more acceptable motive of desire for new knowledge could be safely checked as either "involved in" or "most significant in" the decision to enter the doctoral program.

Responses of the Ed.D.'s and Ph.D.'s were significantly different on some items dealing with motivation (see Table 36). The Ph.D.'s more frequently thought of themselves as being motivated by a desire to specialize than did the Ed.D.'s ($p < .01$). On the other hand, the Ed.D.'s more often chose to describe their motivation in terms of desire to remain well qualified and to advance in rank ($p < .01$ and $p < .05$, respectively). Ph.D.'s granted importance to increases in earning capacity more frequently than did the Ed.D.'s, but were less willing to give this factor "most significant" status as frequently as did their counterparts ($p < .05$). No other differences were statistically significant. It can be noted, however, that two of the three significant differences seem to suggest, as previously noted, a theoretical academic orientation on the part of Ph.D.'s as contrasted with a professional-vocational orientation on the part of Ed.D.'s.

The material factors which made it possible for these individuals to enter the doctoral program are best described as numerous and varied in pattern (see Table 37). For example, the "GI Bill"1/ was

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1/ The questionnaire made the distinction as to which of the Public Laws were intended by the term "GI Bill". It is assumed that respondents may have been receiving educational benefits from any one of several of the laws administered by the Veterans Administration. For a complete list of these possibilities, see United States Code, Title 38: "Veterans Benefits--An Act To consolidate into one Act all of the laws administered by the Veterans' Administration, and for other purposes." (Also printed separately by the U.S. Government Printing Office; for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D.C., 1958. 240 p. 70¢.)

checked most often (41.1 percent), with savings (34.1 percent) and scholarships and fellowships (29.6 percent) next in frequency. Savings was seldom described as the most significant factor. The "GI Bill" was checked twice as often (20.1 percent) as any other "most significant" factor. A working wife and concurrent employment were frequently written in as sources of income. (It should be noted in passing that the factor of concurrent employment will be seen later to be extremely important--often affecting choice of institution and length of program, often perceived as contributing to critical periods and near-critical periods, and often viewed as a source of distraction.) Nearly all respondents checked more than one factor as enabling them to enter the doctoral program, indicating that only rarely is any *one* of the cited sources of income sufficient. Since the majority of the sample consisted of married men with families, this fact is not difficult to understand.

An important question arises at this point: "How many of these individuals would not have been able to enter the doctoral program if one of these material factors had been removed?" It is obvious that the "GI Bill" is diminishing rapidly as an available source of income. A simple calculation shows the large amount of money granted the respondents from this single source.2/ There can be little doubt that the removal of this source would have reduced the number of doctoral graduates within the period of time covered by this study. The implications for the future are obvious; ways to compensate for this loss must be found.

Public secondary schools trained the vast majority of the men and women in the sample (90.4 percent) (see Table 38). Graduating classes ranged in size from less than 10 to far in excess of 500 (see Table 39). The distribution of class size shows no conspicuous mode, indicating that a wide variety of schools are represented by the group.

A broad range of types of undergraduate institutions was represented by the sample (see Table 40). However, the largest single group of respondents (48.1 percent) received their bachelor's degree from large complex universities, i.e., institutions having three or more professional schools.3/ The Ph.D.'s and Ed.D.'s differed significantly as to the type of institution which granted their bachelor's degrees. The difference seems to be accounted for by the fact that a higher proportion of the Ed.D.'s received their degrees from teacher preparatory schools (see Table 41).

State-supported undergraduate institutions produced the largest portion of the sample (50.4 percent), with private (22.2 percent) and denominational (17.7 percent) schools producing the majority of the remainder (see Table 42). Once again the Ph.D.'s and Ed.D.'s differed significantly. The Ph.D.'s more frequently originated in foreign and municipal institutions and came less frequently from state institutions (see Table 43).

The undergraduate major most often indicated by the total sample was education (32.9 percent). Social science was the next most common major (27.2 percent) (see Table 44). The fact that two-thirds of the sample did not major in education is interesting in light of the fact that all majors listed as related to education (e.g., "English education" or "teaching of social studies") were coded as education majors. Responses of the Ed.D.'s and Ph.D.'s were statistically independent. The Ed.D.'s more often majored in education; the Ph.D.'s, more often in social science and the humanities. Within the major fields designated earlier, the proportion of persons majoring in education at the undergraduate level ranged from 76.6 percent in physical education to 12.2 percent in clinical psychology (see Table 45). Undergraduate majors in education were numerous among doctoral candidates in elementary education 53.1 percent) and curriculum (47 percent). Undergraduate majors in education were infrequent among doctoral candidates in science or mathematics (16.9 percent) and social foundations (17.5 percent).

It was noted earlier that almost one-half of the doctoral recipients took undergraduate degrees in very complex institutions, but even greater numbers (81.5 percent) earned master's degrees in these institutions (see Table 46). State institutions produced aporoximately the same proportion of master's degrees as bachelor's degrees (46.8 percent and 50.4 percent, respectively), while private institutions increased their proportional output and denominational institutions dropped off considerably (see Table 47). The trend can be seen more clearly in Tables 48 and 49. The expected movement of individuals into professional education from other fields is readily apparent at this point. The proportion of persons majoring in education changed from 32.9 percent at the bachelor's level to 68.5 percent at the master's level. However, humanities and social studies majors still constituted a significant group which did not enter the field of education at the master's level (see Table 50). Approximately 53 percent of the sample did not write a master's thesis, a fact which had considerable influence in the subsequent choice between doctoral degrees (see Table 51). A number of institutions require the thesis for entry into the Ph.D. program; thus, by omission, the choice of degree becomes restricted. Only 38 people (1.5 per-

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2/ If we can assume that each of 1045 persons received benefits of $100 a month, it would have required in excess of $100,000 to maintain all of these respondents for a single month.

3/ It should be noted that the classifications used herein were those defined in the 1957-58 edition of the United States Office of Education *Directory of Higher Education*. Therefore, many institutions may have been reclassified since the bachelor's degree was granted to the individuals in this sample. If reclassification has taken place, it is most likely to have been in the direction of greater complexity.

cent) earned a six-year degree (see Table 52). In those instances where this intermediate degree was taken, it was usually a by-product of a co-operative program between an institution without a doctoral program and an institution which would accept transferred credit for a graduate degree.

The respondents appear to have been quite mobile during their college careers with only 13.2 percent obtaining all three degrees at the same institution. A significant number (31.2 percent) remained at or returned to the master's degree institution for the doctorate. However, individuals who left an institution following receipt of the bachelor's degree, seldom returned for the doctorate after receiving the master's degree elsewhere (see Table 53).

Students from the various major fields exhibited no great differences in the amount of institutional change incurred while moving up the academic ladder (see Table 54). Higher education majors seemed to be the most mobile. Only 5.6 percent received all degrees at the same institution; 42.3 percent received all degrees at different institutions. Mathematics or science majors and student personnel administration majors showed considerable stability at the graduate level in that 40.3 percent and 45.5 percent, respectively, received master's and doctor's degrees at the same institution.

The Ed.D.'s and Ph.D.'s differed in the amount of institutional change incurred while pursuing the various degrees. This is apparently explained by the fact that the Ed.D.'s less frequently obtained the master's and doctorate degrees at the same institution and more frequently earned each of the three degrees in different institutions (see Table 55). It would seem that the Ph.D.'s more often saw their program as a total graduate commitment which included the master's degree as a milestone rather than a potential terminal point. This interpretation is consistent with the observation that the Ph.D.'s first considered a doctorate at an earlier period of life than did the Ed.D.'s.

When were the degrees received? The median year in which the bachelor's degree was granted to the individuals in the sample was 1942 with 50 percent of the degrees being conferred between 1937 and 1948 (see Table 56). The median year for receipt of the master's degree was 1949 with 50 percent receiving the degree between 1946 and 1952 (see Table 57). Thus, the "median" person was born in 1919, received his bachelor's degree in 1942 at the age of 23, and received his master's degree seven years later in 1949 at the age of 30. Another eight to nine years then passed before the doctorate was completed.

As a point of possible interest, a tabulation was made to determine the number of respondents who had received bachelor's and master's degrees from the doctoral-producing institutions included in this study. The results showed that 37.8 percent of the sample had received their bachelor's degrees and 78.6 percent had received their master's degrees from these 91 institutions. It is possible that there are some implications here for recruiting practices and policies. (Institutions which granted bachelor's and master's degrees to the respondents are listed alphabetically by state in Appendix B.)

Respondents were polled as to their employment prior to receipt of the doctoral degree. Each was asked to: (a) indicate the title and number of years in each position, (b) identify the employers, and (c) indicate the degree of influence each position had upon his decision to enter the doctoral program. The four most recent positions were coded, and the results have been tabulated in Appendix A. This information provides a basis for several noteworthy observations, one of the foremost of which is the fact that the subjects of this study had completed an average of 10.5 years of employment prior to the receipt of their doctoral degrees.4/ There was a definite movement of these individuals from teaching positions toward nonteaching educational positions throughout their predoctoral careers. One also notes a migration out of public schools into colleges prior to receipt of the degree. Somewhat less unexpected was (a) the movement from noneducational positions toward educational posts (see Tables 58 and 59) and (b) the steadily increasing influence of "most recent" positions upon the decision to enter the doctoral program (see Table 60). The Ph.D.'s and Ed.D.'s differed significantly as to the kind of position held just prior to receipt of the doctoral degree ($p < .001$). In this instance, the variance apparently arises from the fact that a higher proportion of the Ph.D.'s were in other professions and were teaching, whereas the Ed.D.'s predominated in nonteaching educational positions. These two groups differed also as to the kinds of organizations in which they were employed ($p < .001$). The number of Ph.D.'s exceeded the number of Ed.D.'s in noneducational service organizations, business or industry, and colleges. The pattern was reversed when it came to the number of each group employed by the public schools (see Tables 61, 62, 63, and 64). Dissimilarities in type of position and employing organization were more pronounced for "most recent positions" than for "second most recent positions." The Ph.D.'s seemed to have held two positions less often than had the Ed.D.'s.

Predoctoral employment was concentrated in education for respondents from all but four of the major fields. Administration majors reported a high proportion (67.3 percent) of nonteaching educational positions, most of which were probably in school administration (see Table 65). A high proportion of practical arts majors had held teaching positions prior to receipt of the degree (70.3 percent), as had social foundations majors (71.4 percent), subject area majors (73.2 percent), and

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4/ This figure is an underestimate since only the four most recent positions were coded.

mathematics or science majors (80.5 percent). The tabulations indicate that the following majors were engaged in work outside the field of education: 26 percent of those in special education, 28.2 percent of those in educational psychology, 24.3 percent of those in guidance, and 54 percent of those in clinical psychology. Those who worked in educational activities distributed themselves in a variety of ways throughout the academic world (see Table 66). The proportion employed in public elementary and secondary schools ranged from 65.7 percent for administration majors to 9.9 percent of the higher education majors. The proportion working in college ranged from 74.6 percent of the higher education majors to 26 percent of the special education majors. Data for the "second most recent position" are found in Appendix A.

Although 39.4 percent of all respondents held public school positions immediately prior to the receipt of their doctoral degrees, institutions were not alike in the proportion of their students who were so employed at this point in their studies. In the 38 highest producing institutions, the proportion of graduates last employed in public school positions ranged from 69.6 percent to 12.1 percent. The basic differences between institutions of high and low rank are difficult to isolate. However, these differences may be related to the kinds of programs emphasized by the institutions or to conscious or unconscious recruiting practices which prevailed.

Military service claimed about 61.8 percent of the sample prior to receipt of the doctorate. The modal period of service was three years. Approximately 55 percent of these individuals felt that their military experience was related to the field of education, and one-half of the group felt that this experience influenced their decisions to enter doctoral programs (see Tables 67, 68, 69, and 70). The Ed.D. and Ph.D. groups were somewhat dissimilar in the proportion of members who had been in military service ($p < .10$). The greater proportion of Ed.D.'s in service is perhaps explained by the greater proportion of women in the Ph.D. program.

The factors which individuals considered, or perceived as important, in their choice of a specific university were numerous and seldom operated singly. The average number of factors reported by each individual was four. Foremost among the factors which had been specified a priori in the questionnaire was "reputation of individual staff members." Approximately one-third of the sample indicated this to be an important consideration, and an additional 22.8 percent of the replies indicated this to be the "most important" consideration. This is compatible with the earlier observation that professors and former professors are highly influential in prompting individuals to enter the doctoral program. It was considered by 53 percent that "proximity to the university" was a factor in their choice. Another 36.6 percent indicated that they were influenced in their choice of a doctoral institution by the fact that they had earned previous graduate credit at that institution. Availability of scholarships, fellowships, and assistantships did not seem to be a particularly strong factor. Voluntary responses pointed to the importance of a university's reputation and its attractive location. (See Table 71.) It was also of considerable interest to note that no significant differences could be discovered in the extent to which the Ph.D.'s and Ed.D.'s used the following categories to account for their institutional choices: similarity of departmental philosophy to personal values, reputation of staff members, reputation of the university, and reputation of the department.

There were differences, however, in the manner in which graduates of the various institutions used these categories. For example, in one of the 38 highest producing institutions, 97.5 percent of the individuals checked the proximity factor; in another, only 20 percent of the graduates thought this an important consideration. The universities whose graduates most often checked proximity were frequently located in large cities or within large metropolitan areas, but some were located in small communities. The universities whose graduates checked proximity least often were frequently located in relatively small cities, but some were located in urban areas. The total production of graduates differed greatly among institutions whose graduates attached importance to proximity. From this, one could not conclude that preference for universities in large metropolitan areas is always based upon proximity factors; prestige, favorable geographic location, and similar reasons may also influence these decisions. One can conclude, however, that the total production of graduates remains small when institutions in smaller communities are selected primarily on the basis of proximity.

Responses of persons in each of the major fields were compared on four of the categories having to do with important considerations in the choice of a doctoral institution. Special education majors seemed least concerned with similarity of departmental philosophy to personal values (16 percent); subject area majors and physical education majors were most concerned with this factor (see Table 72). Physical education majors expressed greatest interest in staff reputation (79.4 percent); guidance majors used this category least often (45.7 percent) (see Table 73). Student personnel administration frequently wrote in the item "reputation of the university"; special education majors seemed least concerned with this factor (see Table 74). The category of "departmental reputation" was sometimes volunteered. A summary of these responses, by major fields, is presented in Appendix A.

At two points in the questionnaire, respondents were requested to rate the influence of chance in their educational career: once in regard to the fact of their doctoral study, and once relative to the choice of the doctoral institution. In both instances

The operation of chance was vigorously denied, but more so relative to the fact of their doctoral study (see Tables 75 and 76). At first glance, these results did not seem compatible with other data. The respondents, in general, came from lower middle-class socioeconomic backgrounds; and, in general, their parents' education was concluded prior to high school graduation. Many admitted that they had been fortunate to have been able to take advantage of the "GI Bill." A large group did not even consider doctoral study until very late in their educational-vocational careers. All these facts seemed to deny careful planning and deliberate action. On the other hand, however, the responses appear more reasonable when other facts are considered. It is highly probable that the chance items were answered from a perspective which developed after the program was deemed a possibility and while means for realizing the possibility were being sought. From this point on, there is much evidence to indicate careful planning. For instance, among the list of material factors enabling them to enter the program, at least two items were always checked. Usually three sources of income were employed simultaneously during residency; this requires planning. Information from the supplementary form indicated patterns such as one year in school followed by two years of working, or, six consecutive summers in residence. In some cases, the individual sought a teaching position in or near the doctoral institution. All of these facts indicated careful planning, but only after a point. Chance may have operated to bring the goal into focus, but once there, planning dominated. One small bit of positive evidence for this hypothesis is provided by a rank order correlation. Institutions were ranked on the basis of student responses as to the amount of planning which took place in the selection of a setting for doctoral study. They were then ranked again, this time in reverse order, as to the importance of proximity considerations for their students. The correlation between the two sets of ranks was a .32 which may be interpreted to mean that as proximity became less important, planning became more important.

TABLE 29.--PERIOD OF LIFE DURING WHICH THE DOCTORAL DEGREE WAS FIRST CONSIDERED, BY PH.D.'S AND ED.D.'S

Period of life	Ph.D. Number	Ph.D. Percent	Ed.D. Number	Ed.D. Percent
1	2	3	4	5
During high school	56	6.5%	93	5.5%
During undergraduate program	184	21.3	206	12.3
During post-bachelor's teaching	41	4.7	98	5.8
During other post-bachelor's work . .	34	3.9	46	2.7
During master's program	284	32.8	528	31.5
During post-master's teaching	152	17.6	396	23.6
During other post-master's work . . .	54	6.2	129	7.7
During post-master's graduate study .	55	6.4	181	10.9
No response	5	0.6	0	0.0
Total	865	100.0%	1677	100.0%

TABLE 30.--PERIOD OF LIFE DURING WHICH THE DOCTORAL MAJOR WAS FIRST CONSIDERED, BY PH.D.'S AND ED.D.'S

Period of life	Ph.D. Number	Ph.D. Percent	Ed.D. Number	Ed.D. Percent
1	2	3	4	5
During high school	78	9.0%	168	10.0%
During undergraduate program	213	24.6	285	17.0
During post-bachelor's teaching	69	8.0	193	11.5
During other post-bachelor's work . .	47	5.4	92	5.5
During master's program	192	22.2	307	18.3
During post-master's teaching	102	11.8	233	13.9
During other post-master's work . . .	41	4.7	96	5.7
During post-master's graduate study .	65	7.5	164	9.8
No response	58	6.8	139	8.3
Total	865	100.0%	1677	100.0%

TABLE 31.--COMPARISON OF PERIODS DURING WHICH THE DOCTORAL DEGREE AND THE DOCTORAL MAJOR WERE FIRST CONSIDERED[a]

Period of life	First considered working toward doctoral degree	First considered doctoral major
	Percent	Percent
1	2	3
During high school	5.9%	9.7%
During undergraduate program.	15.3	19.6
During post-bachelor's teaching	5.5	10.3
During other post-bachelor's work	3.1	5.5
During master's program	31.9	19.6
During post-master's teaching	21.6	13.2
During other post-master's work	7.2	5.4
During post-master's graduate study.	9.3	9.0
No response	0.3	7.7
Total	100.0%	100.0%

[a] Number equals 2542

TABLE 32.--INDIVIDUALS WHO INFLUENCED THE DECISION TO ENTER THE DOCTORAL PROGRAM, BY LEVELS OF IMPORTANCE

Influential individuals	A significant factor[b]		The most significant factor	
	Number	Percent	Number	Percent
1	2	3	4	5
Professional colleagues. . .	947	37.3%	255	10.0%
Spouse	588	23.1	263	10.3
Parents	272	10.7	53	2.1
Other relatives	112	4.4	18	0.7
Former professors	729	28.7	531	20.9
Employer at that time. . . .	357	14.0	175	6.9
Acquaintances	258	10.1	49	1.9
Other--specify[a]				
Major advisor	18	0.7	28	1.1
Self or no one	172	6.8	58	2.3
A specific professor. . .	27	1.1	45	1.8
Other.	48	1.9	48	1.9

[a] The categories under "other" were developed as follows: Approximately 300 questionnaires, selected in no order, were searched, and all responses in the "other" category were listed. A committee of three judges then attempted to classify them into as many categories as seemed necessary to reduce the number of responses in the remaining "other" category to an arbitrary minimum of 5%. A number of items in this questionnaire are of this same type, and the same procedure was followed for each. It should be noted that responses which were "written in" (i.e., those responses recorded in the category "other") are not to be considered in the same light as are those which were defined a priori. The fact that 172 individuals voluntarily wrote in "self" or "no one" may be of the same order as the fact that 729 individuals checked the previously defined category of "former professors.

[b] The categories "a significant factor" and "the most significant factor" are mutually exclusive (i.e., if the individual responded to a given item, he described the importance of that item as "a significant factor" or as "the most significant factor."). This procedure was observed throughout the questionnaire.

TABLE 33.--INFLUENCE OF SPOUSES ON THE DECISION TO ENTER THE DOCTORAL PROGRAM, BY DEGREE RECEIVED

Rating of factor	Ed.D.		Ph.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant factor.	432	25.8%	156	18.0%
The most significant factor . . .	190	11.3	73	8.4

TABLE 34.--INFLUENCE OF FORMER EMPLOYERS ON THE DECISION TO ENTER THE DOCTORAL PROGRAM, BY DEGREE RECEIVED

Rating of factor	Ed.D.		Ph.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant factor.	261	15.6%	96	11.1%
The most significant factor . . .	122	7.3	53	6.1

TABLE 35.--PERSONAL MOTIVES, BY LEVELS OF IMPORTANCE, IN THE DECISION TO ENTER THE DOCTORAL PROGRAM

Personal motives	A significant motive		The most significant motive	
	Number	Percent	Number	Percent
1	2	3	4	5
Desire to work with college students	675	26.6%	168	6.6%
Desire to specialize in a given field.	773	30.4	210	8.3
Desire for prestige.	846	33.3	61	2.4
Desire for advance in rank.	816	32.1	98	3.9
Desire for new knowledge	1312	51.6	363	14.3
Desire to increase earning capacity.	1159	45.6	141	5.5
Desire to remain well qualified in a field .	1047	41.2	348	13.7
Desire for new type position.	653	25.7	193	7.6
Other--specify				
A desire to aid in the growth of the profession as a whole, some specific phase of it, or some problem in it. .	54	2.1	39	1.5
Other.	90	3.5	68	2.7

TABLE 36.--PERSONAL MOTIVES IN THE DECISION TO ENTER THE DOCTORAL PROGRAM, BY ITEMS ON WHICH ED.D.'S AND PH.D.'S DIFFERED

Personal motives	Rating of motives	Ed.D.		Ph.D.	
		Number	Percent	Number	Percent
1	2	3	4	5	6
Desire to specialize	A significant factor	477	28.4%	296	34.2%
	The most significant factor	129	7.7	81	9.4
Desire for advance in rank	A significant factor	571	34.0	245	28.3
	The most significant factor	67	4.0	31	3.6
Desire to increase earning capacity	A significant factor	750	44.7	409	47.3
	The most significant factor	109	6.5	32	3.7
Desire to remain well qualified	A significant factor	722	43.1	325	37.6
	The most significant factor	241	14.4	107	12.4

TABLE 37.--MATERIAL FACTORS WHICH MADE THE DOCTORAL PROGRAM POSSIBLE, BY LEVELS OF IMPORTANCE

Material factors	A significant factor		The most significant factor	
	Number	Percent	Number	Percent
1	2	3	4	5
Unexpired "GI Bill"	533	21.0%	512	20.1%
Awarding of a scholarship, fellowship, etc.	490	19.3	262	10.3
Savings	724	28.5	142	5.6
Leave with pay	209	8.2	86	3.4
Gifts or inheritances	93	3.7	38	1.5
Other--specify				
Wife able to work	139	5.5	99	3.9
Could work concurrently with program	218	8.6	134	5.3
Employed at university	125	4.9	73	2.9
Grants or awards	22	0.9	13	0.5
Loans	53	2.1	31	1.2
Investment income	11	0.4	8	0.3
None or nothing	94	3.7	8	0.3
State benefits	25	1.0	6	0.2
Other	111	4.4	53	2.1

TABLE 38.--TYPE OF SECONDARY SCHOOLS ATTENDED

Type of school	Number	Percent
1	2	3
Public	2297	90.4%
Private, nondenominational	75	3.0
Private, denominational	168	6.5
No response	2	0.1
Total	2542	100.0%

TABLE 39.--SIZE OF SECONDARY SCHOOL GRADUATING CLASSES

Size of class	Number	Percent
1	2	3
1-19	214	8.4%
20-39	347	13.7
40-59	309	12.2
60-99	257	10.1
100-199	400	15.7
200-499	513	20.2
Over 500	487	19.2
No response	15	0.5
Total	2542	100.0%

TABLE 40.--TYPE OF INSTITUTIONS GRANTING THE BACCALAUREATE DEGREE

Type institution	Number	Percent
1	2	3
Liberal arts and general	69	2.7%
Teacher preparatory	282	11.1
Liberal arts, general, and teacher preparatory	600	23.6
Professional and technical	17	0.7
Professional, technical, and teacher preparatory	49	1.9
Liberal arts and general with one or two professional schools	183	7.2
Liberal arts and general with three or more professional schools	1223	48.1
No response or unclassifiable (including foreign schools)	119	4.7
Total	2542	100.0%

TABLE 41.--TYPE OF INSTITUTIONS GRANTING THE BACCALAUREATE DEGREE TO ED.D.'S AND PH.D.'S

Type of institution	Ed.D.		Ph.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Liberal arts and general	43	2.6%	26	3.0%
Teacher preparatory	220	13.1	62	7.2
Liberal arts, general, and teacher preparatory	410	24.4	190	22.0
Professional and technical	6	0.4	11	1.3
Professional, technical, and teacher preparatory	30	1.8	19	2.2
Liberal arts and general with one or two professional schools	120	7.2	63	7.3
Liberal arts and general with three or more professional schools	797	47.5	426	49.2
No response or unclassifiable (including foreign schools)	51	3.0	68	7.9
Total	1677	100.0%	865	100.0%

TABLE 42.--KINDS OF CONTROL OVER THE INSTITUTIONS GRANTING THE BACCALAUREATE DEGREE

Kinds of control	Number	Percent
1	2	3
City or municipal	114	4.5%
Church controlled	451	17.7
National or federal government	5	0.2
Private	565	22.2
Proprietory	0	0.0
State government	1282	50.4
Territorial government	4	0.2
No response (including foreign schools)	121	4.8
Total	2542	100.0%

TABLE 43.--KINDS OF CONTROL OVER THE INSTITUTIONS GRANTING THE BACCALAUREATE DEGREE TO PH.D.'S AND ED.D.'S

Kinds of control	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
City or municipal	66	7.6%	48	2.9%
Church controlled	153	17.7	298	17.8
National or federal government	2	0.2	3	0.2
Private	205	23.7	360	21.5
Proprietory	0	0.0	0	0.0
State government	369	42.7	913	54.4
Territorial government	0	0.0	4	0.2
No response (including foreign schools)	70	8.1	51	3.0
Total	865	100.0%	1677	100.0%

TABLE 44.--UNDERGRADUATE MAJORS

Major field	Number	Percent
1	2	3
Education	837	32.9%
Biological science	88	3.5
Physical science	289	11.4
Social science	691	27.2
Humanities	397	15.6
Technical or vocational	176	6.9
Other	31	1.2
No response	33	1.3
Total	2542	100.0%

TABLE 45.--UNDERGRADUATE MAJORS COMPARED WITH DOCTORAL MAJORS

Doctoral majors	Undergraduate majors								Number
	Education	Biological science	Physical science	Social science	Human-ities	Technical or vocational	Other	No response	
1	2	3	4	5	6	7	8	9	10
Special education	40.0%	6.0%	2.0%	18.0%	26.0%	8.0%	...	...	50
Administration	33.8	1.9	15.3	28.5	12.1	6.0	1.1%	1.3%	621
Curriculum	47.0	4.3	3.5	22.6	15.7	4.3	1.7	...	115
Physical education	76.6	5.6	1.9	7.5	.9	4.7	.9	1.9	107
Practical arts	41.4	1.6	.8	3.1	3.9	43.0	6.3	...	128
Social foundations	17.5	1.6	4.8	47.6	23.8	3.2	1.6	...	63
Subject areas	28.7	...	1.8	17.1	48.2	3.7	.6	...	164
Mathematics or science	16.9	24.7	50.6	3.9	...	1.3	...	2.6	77
Educational psychology	23.5	6.7	10.1	40.9	13.4	2.0	.7	2.7	149
Secondary education	24.2	4.0	24.2	25.3	13.1	8.1	1.0	...	99
Elementary education	53.1	1.5	7.7	21.5	11.5	1.5	...	3.1	130
Higher education	31.0	1.4	14.1	19.7	21.1	8.5	1.4	2.8	71
Guidance	25.4	2.9	9.8	41.6	13.9	3.5	1.2	1.7	173
Clinical psychology	12.2	3.1	10.2	58.2	10.2	2.0	2.0	2.0	98
Student personnel administration	29.5	2.3	13.6	36.4	9.1	4.5	...	4.5	44

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TABLE 46.--TYPE OF INSTITUTIONS GRANTING THE MASTER'S DEGREE

Type of institution 1	Number 2	Percent 3
Liberal arts and general	22	0.9%
Teacher preparatory	91	3.6
Liberal arts, general, and teacher preparatory	104	4.1
Professional and technical	13	0.5
Professional, technical, and teacher preparatory	68	2.7
Liberal arts and general with one or two professional schools	65	2.6
Liberal arts and general with three or more professional schools	2071	81.5
No response or unclassifiable (including foreign schools)	108	4.1
Total	2542	100.0%

TABLE 47.--KINDS OF CONTROL OVER THE INSTITUTIONS GRANTING THE MASTER'S DEGREE

Kinds of control 1	Number 2	Percent 3
City or municipal	55	2.2%
Church controlled	182	7.2
National or federal government	3	0.1
Private	1002	39.4
Proprietory	2	0.1
State government	1189	46.8
Territorial government	0	0.0
No response or unclassifiable (including foreign schools)	109	4.3
Total	2542	100.0%

TABLE 48.--PERCENT OF RESPONDENTS WHO RECEIVED THE BACHELOR'S, MASTER'S, AND DOCTORAL DEGREES IN EACH OF THE VARIOUS TYPES OF INSTITUTIONS

Type of institution 1	Bachelor's degree 2	Master's degree 3	Doctor's degree 4
Liberal arts and general	2.7%	0.9%	0.2%
Teacher preparatory	11.1	3.6	1.9
Liberal arts, general, and teacher preparatory	23.6	4.1	0.0
Professional, technical, and teacher preparatory	1.9	2.7	3.1
Liberal arts and general with one or two professional schools	7.2	2.6	0.1
Liberal arts and general with three or more professional schools	48.1	81.5	94.7
All other	5.4	4.6	0.0
Total	100.0%	100.0%	100.0%

TABLE 49.--PERCENT OF RESPONDENTS WHO RECEIVED THE BACHELOR'S, MASTER'S, AND DOCTORATE IN INSTITUTIONS UNDER EACH OF THE VARIOUS KINDS OF CONTROL

Kinds of control	Bachelor's degree	Master's degree	Doctor's degree
1	2	3	4
Private control	22.2%	39.4%	48.9%
State control	50.4	46.8	47.6
Church control.	17.7	7.2	3.3
Other.	9.7	6.6	0.2
Total	100.0%	100.0%	100.0%

TABLE 50.--MAJORS AT THE MASTER'S DEGREE LEVEL

Major field	Number	Percent
1	2	3
Education	1742	68.5%
Biological science	25	1.0
Physical science	64	2.5
Social science	359	14.1
Humanities	179	7.0
Technical or vocational.	75	3.0
Other.	6	0.2
No response	92	3.7
Total	2542	100.0%

TABLE 51.--PREPARATION OF A MASTER'S THESIS

Response	Number	Percent
1	2	3
Master's thesis written	1191	46.8%
Master's thesis not written	1346	53.0
No response	5	0.2
Total	2542	100.0%

TABLE 52.--ACQUISITION OF THE SIXTH-YEAR DEGREE

Response	Number	Percent
1	2	3
Sixth-year degree received	38	1.5%
Sixth-year degree not received.	2494	97.7
Uncertain	20	0.8
Total	2542	100.0%

TABLE 53.--CHANGE OF INSTITUTION BETWEEN DEGREES

Institutional attendance reported	Number	Percent
1	2	3
Bachelor's, master's, and doctor's degrees granted by the same institution	335	13.2%
Master's and doctor's degrees granted by the same institution	792	31.2
Bachelor's and master's degrees granted by the same institution	477	18.8
Bachelor's and doctor's degrees granted by the same institution	53	2.1
All degrees granted by different institutions	823	32.4
Unclassifiable	62	2.3
Total	2542	100.0%

TABLE 54.--CHANGE OF INSTITUTION BETWEEN DEGREES, BY DOCTORAL MAJOR

Major field	All degrees at same	Master's and doctorate at same	Bachelor's and master's at same	Bachelor's and doctorate at same	All degrees at different	No response	Number
1	2	3	4	5	6	7	8
Special education	16.0%	26.0%	20.0%	2.0%	32.0%	4.0%	50
Administration	14.8	29.0	20.1	1.8	32.2	2.1	621
Curriculum	12.2	32.2	21.7	...	33.9	...	115
Physical education	13.1	29.9	22.4	2.8	30.8	.9	107
Practical arts	16.4	24.2	22.7	1.6	35.2	...	128
Social foundations	14.3	27.0	22.2	...	33.3	3.2	63
Subject areas	9.1	36.6	17.7	1.2	34.8	.6	164
Mathematics or science	10.4	40.3	22.1	5.2	18.2	3.9	77
Educational psychology	18.1	29.5	18.1	1.3	28.9	4.0	149
Secondary education	17.2	30.3	18.2	3.0	31.3	...	99
Elementary education	9.2	34.6	18.5	3.8	30.8	3.1	130
Higher education	5.6	26.8	21.1	1.4	42.3	2.8	71
Guidance	12.1	32.4	15.6	2.3	35.8	1.7	173
Clinical psychology	10.2	28.6	18.4	2.0	31.6	9.2	98
Student personnel administration	6.8	45.5	15.9	...	27.3	4.5	44

TABLE 55.--CHANGE OF INSTITUTION BETWEEN DEGREES, BY PH.D.'S AND ED.D.'S

Institutional attendance reported	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Bachelor's, master's, and doctor's degrees granted by the same institution	127	14.7%	208	12.4%
Master's and doctor's degrees granted by the same institution	302	34.9	490	29.2
Bachelor's and master's degrees granted by the same institution	149	17.2	328	19.6
Bachelor's and doctor's degrees granted by the same institution	22	2.5	31	1.8
All degrees granted by different institutions	233	26.9	590	35.2
Unclassifiable	32	3.8	30	1.8
Total	865	100.0%	1677	100.0%

TABLE 56.--YEAR IN WHICH THE BACCALAUREATE DEGREE WAS RECEIVED

Year	Number	Year	Number
1	2	1	2
1912	1	1938	108
1918	1	1939	131
1919	1	1940	105
1920	2	1941	120
1921	1	1942	143
1922	13	1943	120
1923	5	1944	47
1924	9	1945	50
1925	12	1946	92
1926	12	1947	154
1927	17	1948	216
1928	25	1949	204
1929	34	1950	168
1930	39	1951	100
1931	42	1952	62
1932	44	1953	33
1933	58	1954	17
1934	72	1955	7
1935	80	1956	1
1936	86	No response .	25
1937	85	Total....	2542

TABLE 57.--YEAR IN WHICH THE MASTER'S DEGREE WAS RECEIVED

Year	Number	Year	Number
1	2	1	2
1922	1	1943	20
1924	1	1944	42
1925	1	1945	69
1926	1	1946	98
1927	3	1947	172
1928	4	1948	192
1929	5	1949	212
1930	8	1950	264
1931	9	1951	239
1932	11	1952	202
1933	20	1953	172
1934	15	1954	120
1935	21	1955	98
1936	25	1956	50
1937	41	1957	27
1938	[illegible]	[illegible]	[illegible]
1939	53	No response or degree.	113
1940	64		
1941	75		
1942	60	Total....	2542

TABLE 58.--PERCENT OF RESPONDENTS IN EDUCATIONAL AND NONEDUCATIONAL POSITIONS, BY RECENCY OF THE PREDOCTORAL POSITION

Type position	Most recent position	Second most recent position	Third most recent position	Fourth most recent position
1	2	3	4	5
Educational, teacher....	46.1%	49.4%	53.5%	56.6%
Educational, nonteacher..	40.8	34.2	25.4	19.1
Noneducational	13.1	16.4	21.1	24.3
Total	100.0%	100.0%	100.0%	100.0%

TABLE 59.--PERCENT OF RESPONDENTS EMPLOYED BY PUBLIC SCHOOLS, COLLEGES, ETC., BY RECENCY OF THE PREDOCTORAL POSITION

Type of organization	Most recent position	Second most recent position	Third most recent position	Fourth most recent position
1	2	3	4	5
Public school	39.4%	50.7%	54.9%	57.3%
College or university....	46.8	32.3	23.3	17.8
Other...............	13.8	17.0	21.8	24.9
Total	100.0%	100.0%	100.0%	100.0%

TABLE 60.--DEGREE OF INFLUENCE OF POSITIONS UPON THE DECISION TO ENTER THE DOCTORAL PROGRAM, BY RECENCY OF THE PREDOCTORAL POSITION

Degree of influence	Most recent position	Second most recent position	Third most recent position	Fourth most recent position
1	2	3	4	5
Highly influential	46.1%	24.5%	14.4%	9.0%
Of considerable influence.	22.5	25.4	19.6	14.8
Moderately influential . . .	13.2	21.0	22.0	18.1
Of little influence	7.1	13.6	19.1	20.8
Of no influence.	11.1	15.4	24.9	37.3
Total	100.0%	100.0%	100.0%	100.0%

TABLE 61.--TYPE OF "MOST RECENT" PREDOCTORAL POSITIONS HELD BY PH.D.'S AND ED.D.'S

Type of position	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Professional, semiprofessional, or managerial	180	20.8%	123	7.3%
Education, teacher	424	49.0	725	43.2
Education, nonteacher	233	25.8	794	47.3
All other.	13	1.5	10	0.7
No response or position.	25	2.9	25	1.5
Total	865	100.0%	1677	100.0%

TABLE 62.--TYPE OF ORGANIZATION WHICH EMPLOYED PH.D.'S AND ED.D.'S IN "MOST RECENT" PREDOCTORAL POSITIONS

Type of organization	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Elementary or high school	221	25.5%	759	45.3%
College or university	434	50.2	730	43.5
Service organization.	139	16.1	139	8.3
Business or industry.	41	4.7	25	1.5
No response or position.	30	3.5	24	1.4
Total	865	100.0%	1677	100.0%

TABLE 63.--TYPE OF "SECOND MOST RECENT" PREDOCTORAL POSITIONS HELD BY PH.D.'S AND ED.D.'S

Type of position	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Professional, semiprofessional, or managerial	171	19.8%	150	8.9%
Education, teacher	365	42.2	734	43.8
Education, nonteacher	172	19.9	588	35.1
All other.	22	2.5	23	1.4
No response or position	135	15.6	182	10.8
Total	865	100.0%	1677	100.0%

TABLE 64.--TYPE OF ORGANIZATION WHICH EMPLOYED PH.D.'S AND ED.D.'S IN "SECOND MOST RECENT" PREDOCTORAL POSITIONS

Type of organization	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Elementary or high school	267	30.9%	860	51.3%
College or university	276	31.9	442	26.4
Service organization	138	16.0	134	8.0
Business or industry	47	5.4	59	3.5
No response or position	137	15.8	182	10.9
Total	865	100.0%	1677	100.0%

TABLE 65.--TYPE OF "MOST RECENT" PREDOCTORAL POSITIONS HELD, BY MAJOR FIELDS

Major field	Type of position					
	Professional, managerial	Education, teacher	Education, nonteacher	All other	No response	Number
1	2	3	4	5	6	7
Special education	26.0%	44.0%	28.0%	...	2.0%	50
Administration	4.5	26.9	67.3	0.2%	1.1	621
Curriculum	1.7	60.0	35.7	...	2.6	115
Physical education	8.4	61.7	27.1	1.9	0.9	107
Practical arts	5.5	70.3	22.6	1.6	...	128
Social foundations	6.3	71.4	19.0	...	3.3	63
Subject areas	4.3	73.2	20.7	0.6	1.2	164
Mathematics or science	...	80.5	16.9	1.3	1.3	77
Educational psychology	26.2	45.6	22.8	2.0	3.4	149
Secondary education	1.0	58.6	37.4	...	3.0	99
Elementary education	3.1	49.2	43.8	...	3.9	130
Higher education	9.9	46.5	39.4	1.4	2.8	71
Guidance	23.7	31.2	43.9	0.6	0.6	173
Clinical psychology	51.0	21.4	20.4	3.0	4.2	98
Student personnel administration	11.4	13.6	68.2	2.3	4.5	44

TABLE 66.--TYPE OF ORGANIZATION WHICH EMPLOYED RESPONDENTS IN "MOST RECENT" PREDOCTORAL POSITIONS, BY MAJOR FIELDS

Major field	Type of organization: Public school	College	Service organization	Business or industry	No response	Number
1	2	3	4	5	6	7
Special education	44.0%	26.0%	26.0%	2.0%	2.0%	50
Administration	65.7	26.1	5.3	1.8	1.1	621
Curriculum	44.3	47.0	6.1	...	2.6	115
Physical education	18.7	71.0	7.5	1.9	0.9	107
Practical arts	20.3	70.3	7.0	0.8	1.6	128
Social foundations	34.9	52.4	7.9	1.6	3.2	63
Subject areas	25.0	68.9	3.0	1.8	1.3	164
Mathematics or science	39.0	59.7	1.3	...	...	77
Educational psychology	25.5	46.3	17.4	7.4	3.4	149
Secondary education	47.5	47.5	2.0	...	3.0	99
Elementary education	53.8	39.2	0.8	2.3	3.9	130
Higher education	9.9	74.6	8.5	4.2	2.8	71
Guidance	30.6	44.5	19.7	4.0	1.2	173
Clinical psychology	14.3	29.6	45.9	5.1	5.1	98
Student personnel administration	31.8	52.3	11.4	...	4.5	44

TABLE 67.--INCIDENCE OF MILITARY SERVICE

Response	Number	Percent
1	2	3
Military experience	1570	61.8%
No military experience	884	34.8
No response	88	3.4
Total	2542	100.0%

TABLE 68.--DURATION OF MILITARY SERVICE

Length of service	Of total sample Percent	Of those in service Percent	Number
1	2	3	4
One year	5.5%	8.9%	139
Two years	13.4	21.9	341
Three years	35.3	35.3	550
Four years	21.6	21.6	336
Five years	8.1	8.1	126
Six years	1.2	2.0	31
Seven years	0.4	0.6	10
Eight or more years	0.2	0.4	6
Still in service	0.7	1.2	17
No service	38.8	0.0	986
Total	100.0%	100.0%	2542

TABLE 69.--INCIDENCE OF EDUCATIONAL EXPERIENCE WHILE IN MILITARY SERVICE

Response	Of total	Of those responding	
	Percent	Percent	Number
1	2	3	4
Service included education-related experience	34.3%	54.8%	873
Service included no education-related experience	28.3	45.2	720
No response	37.4	0.0	949
Total	100.0%	100.0%	2542

TABLE 70.--DEGREE OF INFLUENCE OF EDUCATIONAL MILITARY EXPERIENCE ON DECISION TO ENTER THE DOCTORAL PROGRAM

Degree of influence	Of total	Of those responding	
	Percent	Percent	Number
1	2	3	4
Highly influential, of decisive importance . .	2.6%	7.1%	67
Of considerable influence	7.3	19.5	185
Moderately influential	10.0	26.8	254
Of little influence	9.5	25.4	241
Of no influence	7.9	21.2	202
No response or service	62.7	0.0	1593
Total	100.0%	100.0%	2542

TABLE 71.--FACTORS CONSIDERED IN CHOICE OF DOCTORAL INSTITUTION, BY LEVEL OF IMPORTANCE

Factors considered	A significant factor		The most significant factor	
	Number	Percent	Number	Percent
1	2	3	4	5
Availability of housing	347	13.7%	43	1.7%
City provided opportunity for supplementary income	232	9.1	52	2.0
Proximity of the university	947	37.3	400	15.7
Similarity of departmental philosophy to personal values.	629	24.7	190	7.5
Availability of assistantships, fellowships, etc.	463	18.2	233	9.2
Had earned graduate credit at this institution	724	28.5	207	8.1
Nature of initial interviews	347	13.7	89	3.5
Reputation of individual staff members.	1014	39.9	580	22.8
Other				
Reputation of the university	201	7.9	173	6.8
Reputation of the department	71	2.8	54	2.1
Could earn credit while working because of the nature of the residence requirements	15	0.6	14	0.6
Availability of an off-campus program	7	0.3	5	0.2
Attractiveness of the location	125	4.9	41	1.6
An economic factor not accounted for in the above categories	73	2.9	54	2.1
Availability of the program	104	4.1	100	3.9
Employed full time at university	17	0.7	18	0.1
Other	105	4.1	70	2.8

TABLE 72.--SIMILARITY OF DEPARTMENTAL PHILOSOPHY TO PERSONAL VALUES AS A FACTOR IN CHOICE OF DOCTORAL INSTITUTION, BY LEVEL OF IMPORTANCE TO MAJORS IN THE VARIOUS FIELDS

Major field 1	A significant factor 2	The most significant factor 3	No response 4	Number 5
Special education	14.0%	2.0%	84.0%	50
Administration	23.0	6.0	71.0	621
Curriculum.	28.7	12.2	59.1	115
Physical education	36.4	7.5	56.1	107
Practical arts	28.9	6.3	64.8	128
Social foundations.	27.0	14.3	58.7	63
Subject areas.	34.1	9.8	56.1	164
Mathematics or science	20.8	7.8	71.4	77
Educational psychology	22.1	4.7	73.2	149
Secondary education	19.2	10.1	70.7	99
Elementary education	23.8	6.9	69.2	130
Higher education	15.5	7.0	77.5	71
Guidance	22.5	4.6	72.8	173
Clinical psychology	24.5	5.1	70.4	98
Student personnel administration .	25.0	4.5	70.5	44

TABLE 73.--REPUTATION OF STAFF AS A FACTOR IN CHOICE OF DOCTORAL INSTITUTION, BY LEVEL OF IMPORTANCE TO MAJORS IN THE VARIOUS FIELDS

Major field 1	A significant factor 2	The most significant factor 3	No response 4	Number 5
Special education	26.0%	40.0%	34.0%	50
Administration	42.5	24.0	33.5	621
Curriculum.	44.3	28.7	27.0	115
Physical education	48.6	30.8	20.6	107
Practical arts	42.2	39.8	18.0	128
Social foundations	28.6	30.2	41.2	63
Subject areas	36.6	21.3	42.1	164
Mathematics or science	39.0	15.6	45.4	77
Educational psychology	32.2	16.1	51.7	149
Secondary education	41.4	21.2	37.4	99
Elementary education	39.2	26.9	33.9	130
Higher education	39.4	12.7	47.9	71
Guidance.	31.8	13.9	54.3	173
Clinical psychology.	42.9	13.3	43.8	98
Student personnel administration. .	45.5	27.3	27.2	44

TABLE 74.--REPUTATION OF THE UNIVERSITY AS A FACTOR (WRITTEN IN) IN CHOICE OF DOCTORAL INSTITUTION, BY LEVEL OF IMPORTANCE TO MAJORS IN THE VARIOUS FIELDS

Major field	A significant factor	The most significant factor	No response	Number
1	2	3	4	5
Special education	4.0%	4.0%	92.0%	50
Administration	9.7	7.1	83.2	621
Curriculum	6.1	13.0	80.9	115
Physical education	8.4	4.7	86.9	107
Practical arts	6.3	6.3	87.4	128
Social foundations	7.9	9.5	82.6	63
Subject areas	8.5	4.3	87.2	164
Mathematics or science	13.0	1.3	85.7	77
Educational psychology	8.1	6.7	85.2	149
Secondary education	9.1	3.0	87.9	99
Elementary education	4.6	9.2	86.2	130
Higher education	5.6	8.5	85.9	71
Guidance	6.9	5.8	87.3	173
Clinical psychology	6.1	6.1	87.8	98
Student personnel administration. .	15.9	13.6	70.5	44

TABLE 75.--CHANCE AS A FACTOR IN THE DECISION TO ENTER A DOCTORAL PROGRAM

Influence of chance	Number	Percent
1	2	3
Pure chance	20	0.8%
Mostly chance	127	5.0
Part chance, part planning	753	29.6
Some planning	392	16.4
Careful planning and deliberate action	1243	48.9
No response	7	0.3
Total	2542	100.0%

TABLE 76.--CHANCE AS A FACTOR IN CHOICE OF DOCTORAL INSTITUTION

Influence of chance	Number	Percent
1	2	3
Pure chance	60	2.4%
Mostly chance	181	7.1
Part chance, part planning	638	25.1
Some planning	478	18.8
Careful planning and deliberate action	1121	44.1
No response	64	2.5
Total	2542	100.0%

Chapter V

PURSUIT OF THE DEGREE

Among the numerous factors which affect pursuit of the doctoral degree in education, or in any field for that matter, is the time required to complete the total program. This includes various subphases such as languages and the dissertation.

For approximately 60 percent of the respondents of this study, there was no foreign language requirement. For the group in which languages was a requirement, it seemed to have constituted no major hurdle. According to Table 77, the median number of months of concentrated study required to pass the language examinations was five; one-half of the group spent two to nine months studying for the requirement, and one-fourth of these people apparently required less than two months to clear this hurdle.

Completion of the dissertation was another matter. The median length of time required for its completion was 16 months, with 50 percent of the persons completing their dissertations in 12 to 24 months. There was no difference in either the median or the interquartile range for the Ed.D.'s and Ph.D.'s. The time spent on some dissertations amounted to more than 99 months (see Table 78). Marginal comments were numerous on this item and generally referred to such things as the difficulty of obtaining data, the difficulty of obtaining committee agreement on a problem, absence of an adviser, change of adviser, and communications difficulties. Data from the supplementary forms revealed that the thesis was entirely completed in residence in 31.9 percent of the cases; that it was partially completed in residence in 41.5 percent of the cases; and that all of the work on it was accomplished away from the university in 24.9 percent of the cases. (Positive determination on this factor could not be ascertained for the balance of these returns.)

At this point an extremely significant fact should be mentioned relative to a limitation of this study. No effort was made to determine the number of individuals who failed to complete the dissertation after having completed all other requirements. In this study, only those who had actually received the doctorate were contacted. These individuals successfully overcame all obstacles, but many others did not. How many? This is unknown. Why? This is also unknown. Perhaps the first step toward increased production of doctoral degrees in education is to work with this group to find means by which such losses can be reduced. This limitation was recognized in the study design, but had to be ignored because of the difficulties involved in data collection. A large number of respondents noticed the omission and made special efforts to bring it to attention.

There are possibly as many different residence requirements as there are institutions in this study. These requirements vary from (a) those which may be fulfilled in summer only, evenings and Saturdays only, and part-time study (b) to those involving two or three academic years as a full-time student. Data from the supplements show that 15.7 percent of the individuals returning this form did not spend any part of an academic year in residence with as much as a half-time course load.1/ Table 79 shows the median number of months to be 20 with 50 percent of the group in residence from 12 to 30 months. The Ed.D.'s and Ph.D.'s differed relative to the median number of months in residence. The median for the Ed.D.'s was 18 months; for the Ph.D.'s, 24 months. The groups differed in range as well. One-half of the Ed.D.'s were in residence from 12 to 24 months; one-half of the Ph.D.'s were in residence from 15 to 36 months.

The reported length of the total program varied from less than a year to more than eight years (see Table 80).2/ The median length of time was 60 months (i.e., 5 years). Fifty percent of the group completed the total program in 36 to 88 months. Another group, constituting 17.0 percent of the total, required 99 or more months--this was, in fact, the mode for the total population of respondents. The Ed.D.'s and Ph.D.'s did not differ greatly in this respect; both had a median of 60 months. It seems, however, that a larger group of the Ed.D.'s required 99 or more months to finish the degree. The interquartile range was from 36 to 93 months for the Ed.D.'s and from 36 to 84 months for the Ph.D.'s. Further, an analysis of the supplements shows that work was completed primarily in summers by 39.3 percent of the group, during academic years by 52.4 percent of the group, and on a part-time basis by 8.3 percent of the group. Institutions showed marked variation as to median length of program and range. When the 38 largest institutions were ranked on median length of program, the range was from more than 99 to 38 months--a difference of five years. This is, no doubt, a factor over which institutions exercise some kind of control, although the form which it takes cannot be adequately determined from these data. However, if institutions ranked on this variable are correlated with rank on other variables, certain relationships come to light. For example, length of program correlates .34 with incidence of critical periods. A correlation of .40 exists between

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1/ The reader should bear in mind the fact that these responses represent the individual's view as to the time when he was "in residence."

2/ A limitation of the coding system did not permit exact coding for those whose program exceeded 99 months.

length of program and incidence of distractions. A small but significant correlation of .36 exists between length of program and absence of assistantships. No correlation was discovered between length of program and absence of scholarships and fellowships.

Dissertation costs ranged from less than \$100 to more than \$5000, with 51.2 percent costing \$500 or less and 72 percent costing less than \$1000. Approximately one-fifth of the people spent more than \$1000 on the dissertation (see Table 81).[3] The cost of Ph.D. and Ed.D. dissertations differed somewhat ($p < .10$); costs of Ed.D. dissertations appeared to have been slightly higher (see Table 82.).

The cost of the dissertation was borne by the respondents in 69.1 percent of the cases and either partially or totally by an agency in the remainder of the cases. The "GI Bill" was most often cited as the "supporting organization." Foundations or institutes and universities were credited slightly less often (see Tables 83 and 84).

Dissertation titles, together with statements about the areas for which they had implications, were requested, but the results were not coded or tabulated.

A critical period was defined as "a situation requiring temporary discontinuation of the doctoral program." In spite of this restrictive definition, 901 individuals (35.4 percent) placed themselves in this category (see Table 85). The Ed.D.'s and Ph.D.'s did not differ in this respect, but comparisons of institutions revealed variations from 52.2 percent to 15.6 percent. In other words, in some institutions more than one-half of the graduates temporarily discontinued their program; in other institutions, only 15 percent. For those who indicated critical periods, the greatest single cause cited was the pressure of work (44.7 percent). Other evidence indicated that this was not usually work associated with an assistantship, but full-time work carried on in conjunction with the program (see Table 86). Financial problems beset approximately one-third of the group. Family problems constituted still another kind of crisis. The causes which respondents volunteered were usually of an individual nature and were difficult to classify. Quite often the interruption arose from multiple rather than single problems as is indicated in column 2, Table 86. If it could be assumed that the large proportion of the group engaged in concurrent work were an indication of financial difficulties, 76 percent might be a more accurate estimate as to the proportion of individuals confronted with serious financial problems.

A near-critical period was defined as "a situation in which program discontinuation nearly resulted and/or in which emergency measures were required to prevent an interruption." In response to this item, 776 individuals (30.5 percent) gave positive answers (see Table 87). Some overlap occurred between this item and the previous one, but not a great amount; that is, a few individuals stated that both critical and near-critical periods occurred. If the two items are considered together, it may be safely stated that over 50 percent of the sample responded positively to one item or the other. The Ed.D.'s and Ph.D.'s did not differ on this item. Institutions were not ranked on this item. As compared with responses on the previous item (i.e., critical period), work pressures were less evident in these responses; general discouragement and personal relationships acquired greater significance; other factors remained at the same level of significance (see Table 88).

For 58.8 percent of the sample, persistent or recurring distractions prevented wholehearted attention to the doctoral study (see Table 89). The "average" respondent indicated two sources of distraction. Excessive time devoted to noncourse duties was given most often as the source of distraction (33.7 percent). The next most common sources were inadequate financing and family problems (see Table 90). It is also important to note that 26.6 percent of the group volunteered numerous reasons for distraction which were related to the demands of full-time employment. It is also likely that many respondents checked "excessive demands on time" instead of writing a comment. Once again the following questions could be asked: "How directly are these responses related to financial problems?" and "Why did these people not devote full time to study?" It is possible that full-time employment was maintained because of inability to obtain leave of absence, fear of losing tenure or seniority, or a feeling that doctoral study was of less importance than the job. Such possibilities could not be ignored. On the basis of data obtained, however, immediate financial need seemed the most plausible explanation for concurrent full-time employment.

The Ph.D.'s and Ed.D.'s did not differ significantly as to the frequency of distractions, but institutions varied considerably. When universities were ranked on proportion of respondents reporting distractions, the range was from 77.3 to 21.7 percent. Close inspection did not reveal common characteristics for institutions with similar rank, nor was there any correlation between rank on this item and institutional rank based upon the incidence of critical periods.

It is also interesting to inquire as to when critical periods are most likely to occur. Information gathered from the supplementary forms suggested that these frequently occurred after course work was completed. For the 50 persons who plotted these critical periods on the supplement, 37 (74 percent) of them showed that the interruption occurred in the latter part of the program.

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[3] These costs represent actual expenditures apart from loss of earning power during the time required to complete the study.

When institutions were ranked as to the proportion of individuals undergoing distractions, and then ranked again, in reverse order, as to the amount of student-faculty interaction perceived, a correlation of .36 was observed. It is possible to interpret this as a tendency to be less aware of distraction when there is some degree of student-faculty interaction.

The significant sources of encouragement noted by the respondents were the major professor (85.2 percent), the spouse (62.9 percent), and other staff members (56.5 percent) (see Table 91). Major professors and spouses were often considered to be a "most important" source of encouragement, but other staff members were seldom viewed in this manner. A source of encouragement frequently volunteered was "employer during the program." It would be interesting to learn whether or not this encouragement occurred in the interval between course work and thesis completion. The Ed.D.'s and Ph.D.'s did not differ with respect to the individuals who encouraged their study.

TABLE 77.--MONTHS REQUIRED TO COMPLETE LANGUAGE REQUIREMENTS

Months	Number	Of total Percent	Of those responding Percent
1	2	3	4
One	76	3.0%	9.5%
Two	130	5.1	16.2
Three	111	4.4	13.9
Four	62	2.4	7.7
Five	43	1.7	5.4
Six	106	4.2	13.2
Seven	19	0.7	2.4
Eight	34	1.3	4.2
Nine	45	1.8	5.6
Ten	23	0.9	2.9
Eleven	8	0.3	1.0
Twelve	57	2.2	7.1
Twelve or more	87	3.4	10.9
No response or no language requirement	1741	68.6	
Total	2542	100.0%	100.0%

TABLE 78.--MONTHS SPENT ON THESIS

Months	Number	Months	Number	Months	Number	Months	Number
1	2	1	2	1	2	1	2
2	6	23	22	44	9	66	2
3	13	24	223	45	8	67	1
4	19	25	15	46	3	68	2
5	28	26	28	47	2	70	3
6	92	27	24	48	49	71	2
7	43	28	22	49	4	72	6
8	100	29	15	50	8	73	1
9	128	30	70	51	6	74	1
10	98	31	6	52	3	76	2
11	38	32	17	53	5	77	2
12	341	33	18	54	3	78	2
13	34	34	10	55	2	80	1
14	80	35	8	56	2	84	1
15	118	36	114	57	4	85	1
16	69	37	5	58	5	88	1
17	44	38	9	59	2	89	1
18	172	39	3	60	26	96	3
19	27	40	17	62	2	99 or more	4
20	98	41	6	63	2	No response	123
21	38	42	7	64	2		
22	39	43	5	65	2	Total	2542

TABLE 79.--MONTHS SPENT IN RESIDENCE

Months	Number	Months	Number	Months	Number	Months	Number
1	2	1	2	1	2	1	2
1	1	24.......	249	47	4	75	13
2	3	25.......	19	48	47	76	2
3	8	26.......	35	49	2	77	1
4	11	27.......	57	50	11	78	1
5	13	28.......	27	51	2	79	1
6	41	29.......	10	52	8	80	2
7	18	30.......	51	53	3	81	1
8	39	31.......	9	54	8	82	1
9	130	32.......	18	55	4	84	7
10	58	33.......	31	56	4	85	2
11	44	34.......	14	57	1	86	1
12	281	35.......	9	58	1	87	1
13	37	36.......	118	59	2	89	2
14	50	37.......	6	60	25	90	3
15	116	38.......	9	61	1	91	2
16	49	39.......	12	62	2	94	2
17	22	40.......	33	63	4	96	8
18	143	41.......	6	64	2	98 or more.	21
19	24	42.......	10	65	2	No residence requirements	116
20	73	43.......	6	66	2	No response.	119
21	80	44.......	12	68	4		
22	56	45.......	14	69	4		
23	36	46.......	3	70	2	Total....	2542

TABLE 80.--MONTHS SPENT ON TOTAL PROGRAM

Months	Number	Months	Number	Months	Number	Months	Number
1	2	1	2	1	2	1	2
7.......	3	31	19	55	11	79	13
8.......	1	32	20	56	15	80	14
9.......	2	33	38	57	14	81	25
10.......	3	34	29	58	12	82	16
11.......	3	35	24	59	22	83	19
12	7	36	110	60	112	84	105
13	4	37	18	61	11	85	6
14	2	38	24	62	17	86	20
15	4	39	15	63	16	87	10
16	3	40	17	64	9	88	7
17	7	41	17	65	10	89	8
18	11	42	16	66	13	90	9
19	7	43	12	67	14	91	5
20	8	44	22	68	13	92	9
21	30	45	22	69	19	93	18
22	29	46	16	70	15	94	11
23	40	47	17	71	16	95	12
24	112	48	105	72	60	96	63
25	13	49	15	73	10	97	9
26	31	50	27	74	24	98	15
27	16	51	8	75	16	99 or more.	481
28	5	52	10	76	8	No response.	190
29	9	53	13	77	7		
30	24	54	14	78	10	Total....	2542

TABLE 81.--COST OF THE DISSERTATION

Cost	Number	Percent
1	2	3
Less than $100	129	5.1%
$101 to $300	595	23.4
$301 to $500	577	22.7
$501 to $750	240	9.4
$751 to $1,000	291	11.4
$1,001 to $1,500	141	5.5
$1,501 to $2,500	163	6.4
$2,501 to $5,000	141	5.5
$5,001 or more	80	3.2
No response	185	7.4
Total	2542	100.0%

TABLE 82.--DISSERTATION COSTS FOR PH.D.'S AND ED.D.'S

Cost	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
Less than $100	59	6.8%	70	4.2%
$101 to $300	217	25.1	378	22.5
$301 to $500	180	20.8	397	23.7
$501 to $750	65	7.5	175	10.4
$751 to $1,000	98	11.3	194	11.6
$1,001 to $1,500	54	6.2	87	5.2
$1,501 to $2,500	65	7.5	98	5.8
$2,501 to $5,000	43	5.0	97	5.8
$5,001 or more	22	2.5	58	3.5
No response	62	7.3	123	7.3
Total	865	100.0%	1677	100.0%

TABLE 83.--METHODS OF FINANCING THE DISSERTATION

Method used	Number	Percent
1	2	3
Entirely by self	[illegible]	[illegible]
Entirely by an organization (e.g., university, foundation, industry, etc.)	128	5.0
Partially by self, partially by an organization	[illegible]	[illegible]
No response	[illegible]	[illegible]
Total	2542	100.0%

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TABLE 84.--ORGANIZATIONS WHICH HELPED FINANCE THE DISSERTATION

Organization	Of total		Of those financed
	Number	Percent	Percent
1	2	3	4
Organization not specified	39	1.5%	5.2%
"GI Bill"	246	9.7	32.8
University	173	6.8	23.1
Public school district	23	0.9	3.1
Foundation or institute	169	6.6	22.5
State department of education	34	1.3	4.5
Business or industry	23	0.9	3.1
Other	43	1.7	5.7
No response or unfinanced	1792	70.5	
Total	2542	100.0%	100.0%

TABLE 85.--INCIDENCE OF CRITICAL PERIODS

Response	Number	Percent
1	2	3
A critical period occurred	901	35.4%
No critical period occurred	1551	61.0
No response	90	3.5
Total	2542	100.0%

TABLE 86.--CAUSES OF CRITICAL PERIODS

Causal factors	Of total		Of those having critical periods
	Number	Percent	Percent
1	2	3	4
Family problems	188	7.4%	20.9%
Academic pressures	106	4.2	11.8
Personal health	114	4.5	12.7
Financial problems	283	11.1	31.4
Work pressures	403	15.9	44.7
Other			
General discouragement	33	1.3	3.7
Military service	37	1.5	4.1
Personal relationships	18	0.7	2.0
Other	122	4.8	13.5

TABLE 87.--INCIDENCE OF NEAR-CRITICAL PERIODS

Response	Number	Percent
1	2	3
A near-critical period occurred	776	30.5%
No near-critical period occurred	1550	61.0
No response	216	8.5
Total	2542	100.0%

TABLE 88.--CAUSES OF NEAR-CRITICAL PERIODS

Causal factors	Number	Of total Percent	Of those having near-critical periods Percent
1	2	3	4
Family problems	129	5.1%	16.6%
Academic pressures	75	3.0	9.7
Personal health	91	3.6	11.7
Financial problems	235	9.2	30.3
Work pressures	220	8.7	28.4
Other			
General discouragement	64	2.5	8.2
Personal relationships	48	1.9	6.2
Other	92	3.6	11.9

TABLE 89.--INCIDENCE OF DISTRACTING FACTORS

Response	Number	Percent
1	2	3
Distracting factors occurred	1495	58.8%
No distracting factor occurred	988	38.9
No response	59	2.3
Total	2542	100.0%

TABLE 90.--SOURCES OF DISTRACTION

Distracting factors	A significant factor			The most significant factor		
		Of total	Of those having distractions		Of total	Of those having distractions
	Number	Percent	Percent	Number	Percent	Percent
1	2	3	4	5	6	7
Inadequate financing	324	12.7%	21.7%	158	6.2%	10.6%
Housing problems	112	4.4	8.4	17	0.7	1.1
Family problems	280	11.0	18.7	92	3.6	6.2
Excessive demands on time devoted to noncourse duties	329	12.9	22.0	175	6.9	11.7
Personal health	100	3.9	6.7	26	1.0	1.7
Academic pressures	174	6.8	11.6	36	1.4	2.4
Professional relationships	110	4.3	7.4	34	1.3	2.3
Other						
Demands of full-time employment	216	8.5	14.3	184	7.2	12.3
Concern about actual value of the program	11	0.4	0.7	30	1.2	2.0
Other	89	3.5	6.0	77	3.0	5.2

TABLE 91.--INDIVIDUALS WHO ENCOURAGED DOCTORAL STUDY

Individuals	A significant individual		The most significant individual	
	Number	Percent	Number	Percent
1	2	3	4	5
Major professor	1239	48.7%	925	36.5%
Other staff members	1266	49.8	171	6.7
Acquaintances	745	29.3	58	2.2
Parents	562	22.1	82	3.2
Spouse	895	35.2	703	27.7
Other relatives	259	10.2	38	1.5
Former employer	284	11.2	43	1.7
Prospective employer	146	5.7	11	0.4
Other				
Professional colleagues	96	3.8	33	1.3
Employer during program	144	5.7	31	1.2
Fellow students	40	1.6	16	0.6
Former professors	30	1.2	23	0.9
Other	82	3.2	35	1.4

Chapter VI

ATTITUDES TOWARD SELECTED SITUATIONS ENCOUNTERED DURING THE PROGRAM

This section of the report is devoted to an analysis and interpretation of the attitudes held by the respondents relative to certain selected situations which are frequently encountered during a doctoral program. The items were chosen on the basis of their general applicability for doctoral students and their importance to the individual's feeling of satisfaction concerning his graduate program.

In general, the responses to all attitude items were concentrated on the positive side. A slight halo effect may have been functioning, for these were recent graduates. However, for the purposes of this inquiry, perhaps the negative side alone should be considered. Although such cases were nearly always in the minority, the question of what may be done to eliminate more dissatisfaction can always be considered, especially in instances where the amount of dissatisfaction in a given institution is greater than the "average" presented here.

Responses to questions concerned with the completeness of initial interviews indicated that 31 percent of the individuals felt these interviews to have been incomplete (see Table 92). The Ph.D.'s differed significantly from the Ed.D.'s on this item--the Ph.D.'s had a more negative feeling ($p < .01$). Generally, the proportion of negative responses for all individuals on this item was higher than for most of the other items dealing with attitudes.

Individuals were highly pleased with the appropriate nature of their course work. Only 6.3 percent gave negative replies (see Table 93). Ph.D.'s were significantly less positive in this respect than were the Ed.D.'s ($p < .05$). Considerable variation appears as one compares major fields in this item. Curriculum and higher education majors gave a comparatively high number of negative responses (see Table 94).

Only 23.9 percent of the individuals indicated an imbalance of course work in either direction both within and without the major area. The Ph.D.'s and Ed.D.'s again differed significantly ($p < .01$). The Ph.D.'s perceived more emphasis on courses outside the major area, and less emphasis on courses within the major area, than did the Ed.D.'s (see Table 95). One also notes differences among graduates from the various major fields. Those specializing in subject matter areas, mathematics or science, clinical psychology, and, to a lesser extent, special education, expressed more concern about emphasis upon courses outside the major field than did the respondents in general. Overemphasis in the major area was perceived most often by those majoring in secondary and higher education (see Table 96).

The perceived value of languages, as rated both by those required to pass reading requirements and by those who were not, is presented in Tables 97 and 98. After percents were corrected for individuals not responding, it appears that those not subject to these requirements were slightly less negatively disposed toward languages than were those who were required to take them. The observation that negative and positive attitudes are, in part, a function of having been, or not having been, expected to meet a requirement will be noted elsewhere in this chapter.

Approximately 80 percent of the respondents were expected to pass a statistics requirement. Table 99 indicates that only 6 percent felt the requirement to have little or no value. Ed.D.-Ph.D. comparisons showed a significant difference between the two sets of responses ($p < .001$). This difference seemed to result from (a) the fact that a larger proportion of the Ed.D.'s were subject to the requirement and (b) the fact that the Ph.D.'s were more highly favorable toward it. Among the major fields, it appears that those respondents who majored in subject areas, social foundations, and mathematics or science encountered the statistics requirement least often while those who majored in clinical psychology, guidance, and secondary education encountered the requirement most often (see Table 100). High negative feeling toward the value of statistics was evidenced by majors in higher education, social foundations, and secondary education.

Responses were generally positive toward the amount of student interaction encouraged by the various departments, but a moderate proportion of negative reaction was in evidence (27.3 percent) (see Table 101). However, when student interaction was rated as to its value, this moderate proportion took on greater importance, for only 11 percent of the group placed a low value on this factor (see Table 102). Ed.D. and Ph.D. responses showed a very high degree of independence ($p < .001$) as to the amount of student interaction which they perceived. The Ed.D.'s perceived much more of it than did the Ph.D.'s. The two groups did not differ significantly as to the value placed on such interaction. Those who majored in the practical arts, administration, student personnel administration, curriculum, and social foundations saw less encouragement of student interaction than did the respondents as a whole. Those who majored in clinical psychology and the subject areas perceived more encouragement than did the group as a whole (see Table 103). It is interesting that those who majored in the subject areas perceived greater amounts of encouragement for student interaction than did the group as a whole, and yet placed a lower value on student interaction than did the group as a whole (see Table 104).

Feeling was generally positive as to the amount of student-faculty interaction encouraged, but a sizeable block (26.7 percent) felt a lack of such encouragement. When one notes that only 4.4 percent of the respondents placed a negative value on such interaction, he wonders what the institutions' responsibilities should be to this one-fourth of the population (see Tables 105 and 106). Ed.D.-Ph.D. responses are statistically independent ($p < .001$). The Ed.D.'s perceived much more student-faculty interaction than did the Ph.D.'s. As was the case with student interaction, the Ph.D.'s and Ed.D.'s did not differ in the value placed on student-faculty interaction. Among the major fields, graduates in practical arts, curriculum, and student personnel administration perceived low interaction; educational psychology and subject area majors perceived high interaction (see Table 107). Although educational psychology majors perceived high interaction, they placed a lower value on it than did the group as a whole (see Table 108). A partial explanation of some of the interaction responses of those individuals who perceived small amounts is revealed through marginal comments written by "commuting students." These respondents often deplored the lack of opportunity to become acquainted with fellow students and faculty members. This lack may be of such significance as to argue for residence requirements which would permit such interaction to take place. While one may debate about the academic value of such mutual contact as opposed to the loss of students due to rigorous requirements for residency, one cannot argue the fact that these respondents valued very highly interaction with one another and with the faculty.

It is possible to arrive at an index of the extent to which interaction is encouraged within institutions by combining the two most positive categories on student-faculty interaction. When the 38 most productive institutions were ranked on this criterion, it was found that the proportion of students who perceived encouragement for student-faculty interaction ranged from 82.6 percent in some institutions to 21.7 percent in others. Inspection reveals that some, but not all, institutions with large numbers of commuting students ranked low on this scale. It also seems that in some situations, commuting students did not necessarily feel left out insofar as student-faculty interaction was concerned. One notes also that attendance in "residence" institutions does not guarantee that student-faculty interaction will take place.

Two pieces of information were revealed by the item which dealt with the influence of assistantships on selection of major areas of study. First, it was noted that 50.4 percent of the group held assistantships, and second, that approximately 50 percent of the group holding these positions were influenced by them in the choice of majors (see Table 109). Although the responses of the Ed.D.'s and Ph.D.'s appeared to be independent relative to this item ($p < .01$), this outcome seems due, not to difference in influence on selection of a major, but to the higher proportion of Ph.D.'s who held assistantships. The same is true for the responses to questions concerning the value of assistantships; the independence of Ph.D.-Ed.D. populations may be an artifact resulting from differences in the proportions who held these positions (see Table 110). When percentages were corrected by eliminating persons for whom the item did not apply, the differences no longer existed. The value ascribed to assistantships was high indeed, and their importance appeared to be educational rather than financial. There appeared to be no disagreement between the various majors as to the value of assistantships, although the percentages reported in Table 111 were not corrected by removing individuals who did not hold assistantships.

Attitudes toward the usefulness of advice and counseling which was provided by institutions were highly positive, more so than on most items, with only 10.7 percent of the group giving negative responses (see Table 112). Only clinical psychology majors showed any great deviation in the negative direction (see Table 113). Responses of the Ph.D.'s did not differ significantly from those of the Ed.D.'s.

Only a very few respondents (6.3 percent) felt any appreciable absence of freedom for self-direction (see Table 114). The Ed.D.'s and Ph.D.'s did not differ significantly in this respect. No major field seemed to stand out in either a positive or negative direction (see Table 115).

There were but a few negative replies (6.2 percent) to the question about institutional co-operation in providing sources of data and opportunities for experimentation in thesis work. The Ed.D.'s and Ph.D.'s differed in this respect. There was greater feeling of extremely satisfactory co-operation on the part of the Ph.D.'s (see Table 116). It would be interesting to learn if this difference might, in some part, be attributed to differences in the kind of research done by the Ph.D.'s and Ed.D.'s.

Nearly all respondents indicated their libraries were at least "moderately satisfactory" (see Table 117). There was no difference between the Ph.D.'s and Ed.D.'s. The extent to which departments made facilities available for handling data was considered inadequate by 18.2 percent of the sample (see Table 118). It is interesting to note that an additional 15 percent of the sample considered the item inapplicable. These respondents made marginal comments which indicated that theirs was either a nonstatistical dissertation or a study which had been conducted away from the parent institution. The responses of the Ph.D.'s and Ed.D.'s were statistically independent ($p < .001$). The difference apparently stemmed from two sources. First, a larger proportion of the Ed.D.'s found the item inapplicable. Second, the Ed.D.'s were not so positively convinced as to the availability of facilities. Comparisons between fields were not made but might possibly produce interesting differences which could be related to the kind of dissertation which was attempted.

In conclusion, it should be noted that the value of these items on attitude is still to be realized. These responses represent perceptions of graduates relative to conditions existing in their respective institutions at the time of their doctoral work. In the Denver study there are statements of conditions and policies which have been made by the institutions. These items, then, represent points of contact between the two studies.

TABLE 92.--COMPLETENESS OF INITIAL INTERVIEWS[a], AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of completeness	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Extremely complete	77	8.9%	243	14.5%	320	12.6%
Of considerable completeness.	239	27.6	490	29.2	729	28.7
Moderately complete	221	25.5	428	25.5	649	25.5
Rather incomplete	181	20.9	302	18.0	483	19.0
Decidedly incomplete	128	14.8	176	10.5	304	12.0
No response and inapplicable .	19	2.3	38	2.3	57	2.2
Total	865	100.0%	1677	100.0%	2542	100.0%

[a] With respect to information on assistantships, course requirements, housing, loans, time required, etc.

TABLE 93.--APPROPRIATENESS OF COURSE WORK, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of appropriateness	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Entirely inappropriate	8	0.9%	29	1.7%	37	1.5%
Rather inappropriate	42	4.9	79	4.7	121	4.8
Moderately appropriate	266	30.8	405	24.2	671	26.4
Definitely appropriate	388	44.9	844	50.3	1232	48.5
Extremely appropriate	161	18.5	316	18.8	477	18.7
No response	0	0.0	4	0.3	4	0.1
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 94.--APPROPRIATENESS OF COURSE WORK, AS VIEWED BY THE VARIOUS MAJORS

Major fields	Entirely inappropriate	Rather inappropriate	Moderately appropriate	Definitely appropriate	Extremely appropriate	No response	Number
1	2	3	4	5	6	7	8
Special education	...	4.0%	28.0%	52.0%	16.0%	...	50
Administration	1.6%	3.9	25.3	52.0	17.2	...	621
Curriculum	3.5	2.6	23.5	46.1	24.3	...	115
Physical education	0.9	4.7	25.2	45.8	23.4	...	107
Practical arts	...	3.9	20.3	57.0	18.8	...	128
Social foundations	1.6	3.2	23.8	47.6	23.8	...	63
Subject areas	2.4	4.3	34.8	39.6	17.7	1.2%	164
Mathematics or science	...	7.8	32.5	46.7	13.0	...	77
Educational psychology	0.7	7.4	29.5	45.6	16.8	...	149
Secondary education	2.0	8.1	27.3	49.5	12.1	1.0	99
Elementary education	0.8	2.3	18.5	55.4	23.0	...	130
Higher education	4.2	8.5	32.4	28.2	26.7	...	71
Guidance	1.7	5.8	26.0	49.7	16.8	...	173
Clinical psychology	1.0	4.1	35.7	42.9	16.3	...	98
Student personnel administration	...	9.1	25.0	43.2	22.7	...	44

00063

TABLE 95.--BALANCE OF COURSE WORK, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of emphasis	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Great overemphasis on the major area	13	1.5%	18	1.1%	31	1.2%
Overemphasis on the major area	81	9.4	211	12.6	292	11.5
Proper balance	633	73.2	1267	75.6	1900	74.7
Overemphasis on courses outside the major area	101	11.7	141	8.4	242	9.5
Great overemphasis on courses outside the major area	15	1.7	26	1.5	42	1.7
No response and inapplicable	22	2.5	14	0.8	36	1.4
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 96.--BALANCE OF COURSE WORK, AS VIEWED BY THE VARIOUS MAJORS

Major field	Great over-emphasis on major area	Overemphasis on major area	Proper Balance	Overemphasis outside major area	Great over-emphasis outside major area	No response	Number
1	2	3	4	5	6	7	8
Special education	2.0%	2.0%	80.0%	14.0%	2.0%	...	50
Administration.	1.0	15.9	77.0	5.2	0.5	0.4%	621
Curriculum.	...	15.7	80.0	2.6	0.9	0.8	115
Physical education.	1.9	7.5	73.8	13.1	3.7	...	107
Practical arts	3.1	10.2	75.0	8.6	2.3	0.8	128
Social foundations	...	4.8	84.1	9.5	1.6	...	63
Subject areas	1.2	4.9	67.1	19.5	4.3	3.0	164
Mathematics or science.	...	14.3	58.4	18.2	6.5	2.6	77
Educational psychology.	...	7.4	79.2	11.4	2.0	...	149
Secondary education	4.0	16.2	71.7	4.0	2.0	2.1	99
Elementary education	2.3	12.3	80.0	4.6	...	0.8	130
Higher education.	1.4	18.3	66.2	12.7	...	1.4	71
Guidance	...	14.5	73.4	6.9	2.3	2.9	173
Clinical psychology	2.0	9.2	59.2	24.5	...	5.1	98
Student personnel administration	...	11.4	81.8	6.8	...	...	44

00064

TABLE 97.--VALUE OF LANGUAGES, AS VIEWED BY THOSE WHO TOOK THEM

Rating of value	Of total	Corrected	
	Percent	Percent	Number
1	2	3	4
Extremely valuable	3.8%	9.2%	96
Of considerable value	4.9	11.9	124
Moderately valuable	7.6	18.7	194
Of little value	15.7	38.6	401
Of no value	8.8	21.6	223
No response and inapplicable . .	59.2		1504
Total	100.0%	100.0%	2542

TABLE 98.--VALUE OF LANGUAGES, AS VIEWED BY THOSE WHO DID NOT TAKE THEM

Rating of value	Of total	Corrected	
	Percent	Percent	Number
1	2	3	4
Of no value	7.3%	11.4%	186
Of little value	27.2	42.4	691
Moderately valuable	17.9	27.9	454
Of considerable value	8.3	13.0	212
Extremely valuable	3.3	5.3	85
No response and inapplicable .	36.0		914
Total	100.0%	100.0%	2542

TABLE 99.--VALUE OF STATISTICS REQUIREMENT, AS VIEWED BY PH.D.'S AND ED.D.'S

Rating of value	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Extremely valuable	305	35.3%	403	24.0%	708	27.8%
Of considerable value	231	26.7	547	32.6	778	30.6
Moderately valuable	95	11.0	296	17.7	391	15.4
Of little value	31	3.6	106	6.3	137	5.4
Of no value	6	0.7	8	0.5	14	0.6
No response and inapplicable	197	22.7	317	18.9	514	20.2
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 100.--VALUE OF STATISTICS REQUIREMENT, AS VIEWED BY THE VARIOUS MAJORS

Major field	Extremely valuable	Of considerable value	Moderately valuable	Of little value	Of no value	Inapplicable and no response	Number
1	2	3	4	5	6	7	8
Special education	30.0%	42.0%	10.0%	4.0%	...	14.0%	50
Administration	24.2	32.7	20.1	6.3	0.2%	16.5	621
Curriculum	21.7	28.7	13.9	6.2	...	29.5	115
Physical education	24.3	27.1	17.8	4.7	0.9	25.2	107
Practical arts	19.5	33.6	19.5	7.1	0.8	19.5	128
Social foundations	7.9	22.2	19.0	9.5	...	41.4	63
Subject areas	10.4	14.6	9.2	6.1	1.2	58.5	164
Mathematics or science	28.6	24.7	13.0	1.3	...	32.4	77
Educational psychology	55.7	24.2	8.1	1.3	...	10.7	149
Secondary education	23.2	37.4	21.2	9.1	1.0	8.1	99
Elementary education	26.9	38.5	19.2	4.6	1.5	9.3	130
Higher education	21.1	31.0	12.7	12.7	...	22.5	71
Guidance	41.0	33.5	13.9	3.5	1.7	6.4	173
Clinical psychology	43.9	30.6	15.3	5.1	1.0	4.1	98
Student personnel administration	25.0	38.6	22.7	...	...	13.7	44

00065

TABLE 101.--EXTENT TO WHICH STUDENT INTERACTION[a] WAS ENCOURAGED, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of encouragement	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
To a very great extent	87	10.1%	266	15.9%	353	13.9%
To a considerable extent	217	25.1	575	34.3	792	31.2
To some extent	261	30.2	424	25.3	685	26.9
To a small extent	227	26.2	323	19.3	550	21.6
Not at all	67	7.7	79	4.7	146	5.7
No response and inapplicable	6	0.7	10	0.5	16	0.7
	865	100.0%	1677	100.0%	2542	100.0%

[a] Through an active program of informal seminars, professional organizations, social events, etc.

TABLE 102.--VALUE ASSIGNED TO STUDENT INTERACTION[a]

Rating of value	Number	Percent
1	2	3
Of no value	55	2.2%
Of little value	224	8.8
Of some value	612	24.2
Of considerable value	1000	39.4
Extremely valuable	603	23.8
No response or inapplicable . .	39	1.6
Total	2542	100.0%

[a] Percents and numbers for Ph.D.'s and Ed.D.'s are not presented separately in this table because of their lack of statistical independence. On the other items where no independence appears, the same procedure is followed.

TABLE 103.--EXTENT TO WHICH STUDENT INTERACTION WAS ENCOURAGED, AS VIEWED BY THE VARIOUS MAJORS

Major field	To a very great extent	To considerable extent	To some extent	To a small extent	Not at all	Inapplicable and no response	Number
1	2	3	4	5	6	7	8
Special education	10.0%	40.0%	18.0%	26.0%	6.0%	. . .	50
Administration	15.9	33.7	28.8	18.8	2.8	. . .	621
Curriculum	17.4	27.8	33.9	14.8	5.2	0.9%	115
Physical education	15.0	36.4	23.4	19.6	5.6	. . .	107
Practical arts	21.1	34.4	26.6	12.5	3.9	1.5	128
Social foundations	12.7	28.6	34.9	19.0	3.2	1.6	63
Subject areas	11.0	21.3	25.0	37.2	3.7	1.8	164
Mathematics or science	6.5	36.4	29.9	18.2	9.0	. . .	77
Educational psychology	11.4	27.5	24.2	27.5	8.7	0.7	149
Secondary education	10.1	37.4	25.3	15.2	12.0	. . .	99
Elementary education	10.0	32.3	33.1	15.4	8.5	0.7	130
Higher education	18.3	31.0	18.3	25.4	7.0	. . .	71
Guidance	15.0	29.5	25.4	23.1	6.4	0.6	173
Clinical psychology	11.2	21.4	23.5	35.7	8.2	. . .	98
Student personnel administration	22.7	43.2	18.2	13.6	2.3	. . .	44

TABLE 104.--VALUE OF STUDENT INTERACTION, AS VIEWED BY THE VARIOUS MAJORS

Major field	Of no value	Of little value	Of some value	Of considerable value	Extremely valuable	Inapplicable and no response	Number
1	2	3	4	5	6	7	8
Special education	...	10.0%	18.0%	52.0%	18.0%	2.0%	50
Administration	0.5%	7.1	23.8	47.0	21.3	0.3	621
Curriculum.	2.6	7.9	21.7	45.2	21.7	0.9	115
Physical education.	0.9	8.4	25.3	43.0	21.5	0.9	107
Practical arts	0.8	9.4	16.4	39.8	32.0	1.6	128
Social foundations	4.8	4.8	39.7	31.7	19.0	...	63
Subject areas	6.1	17.7	30.5	26.8	17.1	1.8	164
Mathematics or science.	1.2	13.0	26.0	44.2	14.3	1.3	77
Educational psychology.	5.4	6.7	26.2	34.2	26.2	1.3	149
Secondary education	2.0	6.1	19.2	43.4	26.3	3.0	99
Elementary education	2.3	5.4	20.0	43.8	26.9	1.5	130
Higher education.	8.5	12.7	33.8	19.7	23.9	1.4	71
Guidance	1.2	9.2	24.9	42.2	19.1	3.4	173
Clinical psychology	3.1	8.2	26.5	25.5	36.7	...	98
Student personnel administration	2.3	6.8	18.2	50.0	22.7	...	44

TABLE 105.--EXTENT TO WHICH STUDENT-FACULTY INTERACTION WAS ENCOURAGED, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of encouragement	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
To a very great extent.	76	8.8%	216	12.9%	292	11.5%
To a considerable extent	246	28.4	577	34.4	823	32.4
To some extent	263	30.4	480	28.6	743	29.2
To a small extent.	212	24.5	314	18.7	526	20.7
Not at all	66	7.6	86	5.1	152	6.0
No response and inapplicable . .	2	0.2	4	0.3	6	0.2
Total	865	100.0%	1677	100.0%	2542	100.0%

00067

00068

TABLE 106.--VALUE ASSIGNED TO STUDENT-FACULTY INTERACTION

Rating of value	Number	Percent
1	2	3
Of no value	26	1.0%
Of little value	86	3.4
Of some value	374	14.7
Of considerable value	1088	42.8
Extremely valuable.	940	37.0
No response or inapplicable	28	1.1
Total	2542	100.0%

TABLE 107.--EXTENT TO WHICH STUDENT-FACULTY INTERACTION WAS ENCOURAGED, AS VIEWED BY THE VARIOUS MAJORS

Major field	To a very great extent	To considerable extent	To some extent	To a small extent	Not at all	Inapplicable and no response	Number
1	2	3	4	5	6	7	8
Special education	8.0%	32.0%	34.0%	24.0%	2.0%	...	50
Administration	14.0	31.7	32.0	18.8	3.5	...	621
Curriculum	13.9	33.9	33.0	14.8	4.4	...	115
Physical education	17.8	37.4	20.6	16.8	7.4	...	107
Practical arts	14.1	38.3	31.3	13.3	2.3	0.7%	128
Social foundations	6.3	31.7	38.1	22.1	1.6	...	63
Subject areas	9.8	22.0	26.2	28.0	13.4	0.6	164
Mathematics or science	14.3	26.0	27.3	27.2	5.2	...	77
Educational psychology	6.7	26.8	28.2	28.9	9.4	...	149
Secondary education	7.1	33.3	28.3	18.2	13.1	...	99
Elementary education	8.5	41.5	25.4	16.9	7.7	...	130
Higher education	16.9	25.4	28.2	23.9	5.6	...	71
Guidance	9.8	36.4	28.3	19.7	4.6	1.2	173
Clinical psychology	5.1	33.7	25.5	28.6	7.1	...	98
Student personnel administration	15.9	40.9	27.3	15.9	...	...	44

TABLE 108.--VALUE OF STUDENT-FACULTY INTERACTION, AS VIEWED BY THE VARIOUS MAJORS

Major field	Of no value	Of little value	Of some value	Of considerable value	Extremely valuable	No response	Number
1	2	3	4	5	6	7	8
Special education	...	...	18.0%	50.0%	32.0%	...	50
Administration	0.5%	3.5%	15.6	44.4	35.7	0.3%	621
Curriculum	0.9	2.6	13.0	45.2	36.5	1.8	115
Physical education	1.9	1.9	6.5	48.6	41.1	...	107
Practical arts	0.8	3.1	10.2	43.0	41.4	1.5	128
Social foundations	...	1.6	14.3	50.8	30.2	3.1	63
Subject areas	1.8	3.7	17.1	39.6	36.0	1.8	164
Mathematics or science	...	10.4	15.6	41.6	32.4	...	77
Educational psychology	2.7	7.4	14.8	43.0	31.5	0.6	149
Secondary education	2.0	4.0	13.1	43.4	35.4	2.1	99
Elementary education	1.5	1.5	10.8	49.2	35.4	1.6	130
Higher education	2.8	9.9	18.3	36.6	32.4	...	71
Guidance	1.7	2.3	22.0	38.2	32.9	2.9	173
Clinical psychology	3.1	5.1	13.3	35.7	41.8	1.0	98
Student personnel administration	...	6.8	9.1	43.2	40.9	...	44

TABLE 109.--INFLUENCE OF ASSISTANTSHIPS UPON CHOICE OF DOCTORAL MAJOR, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of influence	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Highly influential	101	11.7%	140	8.3%	241	9.5%
Of considerable influence	97	11.2	144	8.6	241	9.5
Of some influence	52	6.0	98	5.8	150	5.9
Of little influence	82	9.5	134	8.0	216	8.5
Of no influence	166	19.2	267	15.9	433	17.0
No response and inapplicable	367	42.4	894	53.4	1261	49.6
Total	865	100.0%	1677	100.0%	2542	100.0%

00069

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TABLE 110.--VALUE OF ASSISTANTSHIPS, AS VIEWED BY PH.D.'S AND ED.D.'S

Rating of value	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Of no value	4	0.5%	11	0.7%	15	0.5%
Of little value	15	1.7	21	1.3	36	1.4
Of some value	57	6.6	97	5.8	154	6.1
Of considerable value	182	21.0	284	16.9	466	18.3
Extremely valuable.	259	29.9	414	24.7	673	26.5
No response and inapplicable . .	348	40.3	850	50.6	1198	47.1
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 111.--VALUE OF ASSISTANTSHIPS, AS VIEWED BY THE VARIOUS MAJORS

Major field	Of no value	Of little value	Of some value	Of considerable value	Extremely valuable	Inapplicable and no response	Number
1	2	3	4	5	6	7	8
Special education	...	...	6.0%	22.0%	34.0%	38.0%	50
Administration	0.6%	1.0%	6.0	18.7	23.0	50.7	621
Curriculum.	...	1.7	4.3	15.7	30.4	47.9	115
Physical education.	...	0.9	3.7	17.8	26.2	51.4	107
Practical arts	0.8	3.1	9.4	20.3	26.6	39.8	128
Social foundations	...	3.2	4.8	17.5	27.0	47.5	63
Subject areas	1.2	1.2	9.1	10.4	23.8	54.3	164
Mathematics or science.	2.6	2.6	6.5	23.4	24.7	40.2	77
Educational psychology.	0.1	1.3	10.1	19.5	30.9	38.1	149
Secondary education	1.0	1.0	8.1	18.2	32.3	39.4	99
Elementary education	1.5	2.3	4.6	20.8	30.8	40.0	130
Higher education.	1.4	4.2	5.6	19.7	19.7	49.4	71
Guidance	0.6	2.3	2.9	13.3	27.2	53.7	173
Clinical psychology	...	1.0	9.2	29.6	22.4	37.8	98
Student personnel administration	...	...	2.3	22.7	25.0	50.0	44

TABLE 112.--USEFULNESS OF INSTITUTIONAL ADVICE AND COUNSELING

Degree of usefulness	Number	Percent
1	2	3
Extremely useful	623	24.5%
Of considerable usefulness	922	36.3
Moderately useful	674	26.5
Of little usefulness	235	9.2
Useless	39	1.5
No response and inapplicable	49	2.0
Total	2542	100.0%

TABLE 113.--USEFULNESS OF INSTITUTIONAL ADVICE AND COUNSELING, AS VIEWED BY THE VARIOUS MAJORS

Major field	Extremely useful	Of considerable usefulness	Moderately useful	Of little usefulness	Useless	Inapplicable and no response	Number
1	2	3	4	5	6	7	8
Special education	28.0%	32.0%	26.0%	10.0%	2.0%	2.0%	50
Administration	22.4	37.7	27.5	9.2	1.4	1.8	621
Curriculum	32.2	34.8	20.9	8.7	0.9	2.5	115
Physical education	25.2	33.6	29.9	5.6	1.9	3.8	107
Practical arts	39.1	32.8	25.0	3.1	...	...	128
Social foundations	23.8	39.7	27.0	3.2	...	6.3	63
Subject areas	26.2	29.9	27.4	11.0	4.3	1.2	164
Mathematics or science	16.9	42.9	24.7	11.7	2.6	1.2	77
Educational psychology	17.4	34.9	31.5	12.1	1.3	2.8	149
Secondary education	22.2	43.4	25.3	7.1	1.0	1.0	99
Elementary education	32.3	38.5	22.3	5.4	1.5	...	130
Higher education	25.4	36.6	28.2	9.8	...	...	71
Guidance	26.6	36.4	24.3	11.6	...	1.1	173
Clinical psychology	12.2	39.8	26.5	15.3	3.1	3.1	98
Student personnel administration	29.5	43.2	15.9	9.1	2.3	...	44

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TABLE 114.--AMOUNT OF FREEDOM AND SELF-DIRECTION PERMITTED

Degree of freedom	Number	Percent
1	2	3
Practically none.	37	1.5%
Very little	123	4.8
A moderate amount.	579	22.8
A considerable amount	1179	46.4
A great amount	615	24.2
No response and inapplicable	9	0.3
Total	2542	100.0%

TABLE 115.--AMOUNT OF FREEDOM AND SELF-DIRECTION PERMITTED, AS VIEWED BY THE VARIOUS MAJORS

Major field	Practically none	Very little	A moderate amount	A considerable amount	A great amount	No response	Number
1	2	3	4	5	6	7	8
Special education	2.0%	...	30.0%	50.0%	16.0%	2.0%	50
Administration	1.0	3.5%	26.4	47.7	21.3	0.1	621
Curriculum.	...	7.0	23.5	45.2	24.3	...	115
Physical education.	4.7	6.5	24.3	42.1	22.4	...	107
Practical arts	1.6	7.8	25.0	46.1	19.5	...	128
Social foundations	1.6	3.2	20.6	41.3	31.7	1.6	63
Subject areas	1.2	5.5	18.3	49.4	24.4	1.2	164
Mathematics or science.	2.6	3.9	19.5	49.4	24.6	...	77
Educational psychology.	0.7	4.7	25.5	51.0	18.1	...	149
Secondary education	...	6.1	24.2	47.5	22.2	...	99
Elementary education	2.3	5.4	20.8	41.5	29.2	0.8	130
Higher education.	5.6	2.8	21.1	39.4	31.1	...	71
Guidance.	1.7	5.2	24.9	46.2	21.4	0.6	173
Clinical education.	2.0	7.1	21.4	49.0	20.4	0.1	98
Student personnel administration	...	2.3	15.9	52.3	29.5	...	44

TABLE 116.--INSTITUTIONAL CO-OPERATION ON THESIS, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of satisfaction	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Extremely satisfactory	330	38.2%	553	33.0%	883	34.7%
Highly satisfactory	289	33.4	685	40.8	974	38.3
Moderately satisfactory	129	14.9	272	16.2	401	15.8
Rather unsatisfactory	46	5.3	64	3.8	110	4.2
Completely unsatisfactory	24	2.8	28	1.7	52	2.0
No response and inapplicable	47	5.4	75	4.5	122	5.0
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 117.--ADEQUACY OF LIBRARY FOR THESIS WORK

Degree of satisfaction	Number	Percent
1	2	3
Extremely unsatisfactory	122	4.8%
Rather unsatisfactory	166	6.5
Moderately satisfactory	444	17.5
Highly satisfactory	944	37.1
Extremely satisfactory	835	32.8
No response and inapplicable	31	1.3
Total	2542	100.0%

TABLE 118.--AVAILABILITY OF FACILITIES[a] FOR THESIS WORK, AS VIEWED BY PH.D.'S AND ED.D.'S

Degree of satisfaction	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Extremely satisfactory	230	26.6%	297	17.7%	527	20.7%
Highly satisfactory	224	25.9	410	24.4	634	24.9
Moderately satisfactory	167	19.3	372	22.2	539	21.2
Rather unsatisfactory	68	7.9	187	11.2	255	10.0
Extremely unsatisfactory	74	8.6	133	7.9	207	8.2
No response and inapplicable	102	11.7	178	16.6	380	15.0
Total	865	100.0%	1677	100.0%	2542	100.0%

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[a] For compiling, tabulating, and computing data.

Chapter VII

THE PERIOD OF RESIDENCY

For the purposes of this study, the period of residency was loosely defined. No strict, invariable definition was possible because of the numerous institutional definitions of the term. Residency was defined in the questionnaire as that period of time in doctoral work when the academic program was the primary interest and responsibility of the respondent. This broad definition had the advantage of minimizing failures to respond because of a deviation from an institutional definition of residence; similarly, those who actually had no period of residency were not prevented from responding. However, to increase preciseness, those who specifically stated that a period of residency was not required were not included in the coding of items on finance and assistantships.1/

How was the period of residency financed? It appears as a fact of primary significance that each individual made use of two or three sources of income during this period (see Table 119). Evidence from the supplementary forms indicates further that these sources were used concurrently rather than at different times. It also seems that the group was self-supporting in the sense that respondents generally were not financed by gifts from parents or relatives. The most common financial sources were personal savings (46.4 percent), assistantships (38.3 percent), "GI Bill" (35.9 percent), and spouses' earnings (27.5 percent). Even during residency 19.9 percent taught outside the university, and 20.3 percent were involved in other work outside the university. Even though the "GI Bill" was indicated as a major source of income, it is interesting to note that the proportion of respondents who used veterans' benefits in the period of residency is only 35.9 percent as compared with the 41.1 percent who included this as a factor which made it possible to embark upon the doctoral program. It was assumed that expirations account for this difference.

The Ed.D.'s and Ph.D.'s did not differ in the extent to which they used scholarships, fellowships, or awards as a source of income. Nor was there any great variation among respondents from the various major fields (see Table 120). Of the total group of respondents, 22.2 percent received scholarships, fellowships, or awards. Approximately 30 percent of the majors in mathematics or science, secondary education, and student personnel administration had these awards, but only about 15 percent of the majors in physical education and in guidance held such awards. The proportion of individuals holding scholarships, and other awards, ranged from 78.9 percent to 0.0 percent in the 38 largest institutions. Many scholarships must have been of small value for they were seldom described as major sources of income (5.9 percent). A number of these awards were apparently for tuition only.

The Ed.D.'s and Ph.D.'s differ significantly as to the number of respondents who held assistantships ($p < .001$). The Ph.D.'s held more assistantships than did the Ed.D.'s (see Table 121). No major field was conspicuously low in assistantships. Graduates in special education, practical arts, and educational psychology reported assistantships for more than 48 percent in each field (see Table 122). These exceed the expectation one would have after studying Table 122. Universities varied markedly in the proportion of their students holding assistantships. The range was from 74.3 percent to 12.3 percent. Certain parts of the evidence about institutions seemed to indicate the possibility of an inverse relationship between critical periods and assistantships. A small, but significant, rank correlation of .39 was found to exist between the responses on these two items. Inspection of the data revealed that the deviations in order were actually quite small for all but three institutions. When these three universities were removed, the correlation became .69. There appears to have been no such relationship between the award of scholarships, fellowships, and other awards and the incidence of critical periods. When scholarships, fellowships, and other awards were combined with assistantships to obtain an index of institutional aid to the student, the correlation with incidence of critical periods approached zero.

A correlation of .52 was noted between rank order of institutions based upon the proportion of respondents holding scholarships, fellowships, and other awards and inverted rank order based upon the frequency with which respondents indicated that proximity was a factor in the choice of an institution. This would seem to suggest that some individuals will attend universities which are close by even though no scholarships and fellowships have been offered. It also seems to suggest that financial awards do serve as an inducement when proximity is inoperative, but these data are insufficient to provide adequate support for this hypothesis.

A higher proportion of the Ed.D.'s received leave with pay than did the Ph.D.'s ($p < .01$) (see Table 123).

Veterans' benefits were equally available to Ph.D.'s and Ed.D.'s, but these funds were not equally available to persons enrolled in the various major fields (see Table 124). The proportion of recipients of veterans' benefits was high in administration (44.1 percent) and student personnel administration (45.4 percent). It was low for majors in curriculum

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1/ A group of 110 of these persons (4.6 percent) was not included in the analysis of these two items.

(23.5 percent), social foundations (23.8 percent), and practical arts (25.8 percent). These differences are partially attributable to sex; that is, fields dominated by men showed higher proportions utilizing the "GI Bill" than did other fields.

The Ph.D.'s and Ed.D.'s also differed in the extent to which they depended upon savings ($p < .05$), earnings from teaching outside the university ($p < .05$), and earnings from other work outside the university ($p < .001$) (see Tables 125, 126, and 127). The Ed.D.'s frequently used savings and teaching outside the university as sources of income. The Ph.D.'s were more frequently employed in "other work outside the university."

Table 128 reveals that the universities themselves were the most prominent donors of scholarships and fellowships, and Table 129 shows that colleges and universities granted the most leaves with pay. It may come as a surprise to some to see how many school districts granted leaves for doctoral study. Very few respondents used loans. The most frequent source of loans was relatives; universities made loans almost as frequently (see Table 130).

The most frequent work assignment for assistants was teaching (27.2 percent). Assistance to instructors and research constituted the major assignments of others who held assistantships (see Table 131). The major fields varied as to type of assistantships held. Teaching positions were numerous in special education, physical education, practical arts, and mathematics or science (see Table 132). Educational psychology seemed to dominate in research assistantships; for subject areas and physical education, these positions were practically nonexistent (see Table 133). As one would expect, guidance, clinical psychology, student personnel administration, and educational psychology majors dominated the guidance and counseling work (see Table 134). And in supervision of student teaching, the majors in subject areas, curriculum, and elementary education outnumbered all others (see Table 135).

The most common form of housing used during residency was either rented apartments or rooms off campus (38.5 percent). Surprisingly, the next most frequent situation was self-owned houses (21.8 percent). Residence halls and rented houses accounted for the majority of the remainder (see Table 136). Only 25.8 percent of the sample indicated housing problems (see Table 137). While this is not a significantly large group, it may represent a major factor in specific institutions. In other words, it is more likely to be a local than a general problem, although this hypothesis has not been checked. Among those who did indicate housing problems, cost was the most significant cause (53.1 percent). Poor quality of available housing (27.6 percent) and inadequacy for family needs (31.6 percent) were mentioned somewhat less frequently (see Table 138). Table 139 indicates that the "average" respondent was responsible for the housing of three to four persons, including himself.

Table 140 reveals that 49.1 percent of the sample received total or partial aid in paying their tuition and fees during most of their program. The Ph.D.'s received aid more frequently from the universities than did the Ed.D.'s ($p < .001$). Among the various sources other than the university which aided in payment of tuition and fees, the "GI Bill" was cited by 81.9 percent of the respondents (see Table 141).

TABLE 119.--SOURCES OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE

Sources	A significant source		The most significant source	
	Number	Percent	Number	Percent
1	2	3	4	5
Scholarship, fellowship, or award	414	16.3%	151	5.9%
Assistantship or other university position	630	24.8	344	13.5
Leave with pay	160	6.3	128	5.0
"GI Bill"	609	24.0	302	11.9
Loans	277	10.9	45	1.8
Savings	909	35.8	270	10.6
Earnings of spouse	423	16.6	276	10.9
Teaching outside university	253	10.0	252	9.9
Other work outside university	352	13.8	164	6.5
Other				
Gifts	54	2.1	31	1.2
Investment income	24	0.9	10	0.4
Full-time employment	77	3.0	48	1.9
Administrative internship	7	0.3	10	0.4
Armed forces	22	0.9	5	0.2
Sponsored projects	4	0.2	5	0.2
Other	46	1.8	20	0.8

TABLE 120.--SCHOLARSHIPS, FELLOWSHIPS, AND OTHER AWARDS AS FINANCIAL SOURCES, BY LEVEL OF IMPORTANCE FOR MAJOR FIELDS

Major field	A significant source	The most significant source	No response	Number
1	2	3	4	5
Special education	14.0%	4.0%	82.0%	50
Administration	14.8	5.8	79.4	621
Curriculum	18.3	6.1	75.6	115
Physical education	12.1	2.8	85.1	107
Practical arts	15.6	5.5	78.9	128
Social foundations	22.2	6.3	71.5	63
Subject areas	18.3	5.5	76.2	164
Mathematics or science	27.3	3.9	68.8	77
Educational psychology	16.1	4.0	79.9	149
Secondary education	20.2	9.1	70.7	99
Elementary education	15.4	3.8	80.8	130
Higher education	14.1	12.7	73.2	71
Guidance	13.3	1.2	85.5	173
Clinical psychology	17.3	10.2	72.5	98
Student personnel administration	27.3	2.3	70.4	44

TABLE 121.--ASSISTANTSHIPS AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR PH.D.'S AND ED.D.'S

Rating of factor	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant factor	229	26.5%	401	23.9%
The most significant factor	159	18.4	185	11.0
No response	477	55.0	1091	65.1
Total	865	100.0%	1677	100.0%

TABLE 122.--ASSISTANTSHIPS AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR MAJOR FIELDS

Major field	A significant source	The most significant source	No response	Number
1	2	3	4	5
Special education	44.0%	6.0%	50.0%	50
Administration	21.4	11.0	67.6	621
Curriculum	27.8	14.8	57.4	115
Physical education	27.1	14.0	58.9	107
Practical arts	28.1	20.3	51.6	128
Social foundations	23.8	6.3	69.9	63
Subject areas	25.6	7.9	66.5	164
Mathematics or science	20.8	11.7	67.5	77
Educational psychology	30.9	18.8	50.3	149
Secondary education	27.3	17.2	55.5	99
Elementary education	28.5	13.8	57.7	130
Higher education	25.4	8.5	66.1	71
Guidance	20.8	15.0	64.2	173
Clinical psychology	25.5	12.2	62.3	98
Student personnel administration	31.8	13.6	54.6	44

TABLE 123.--LEAVE WITH PAY AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR PH.D.'S AND ED.D.'S

Rating of source	Ph.D.		Ed. D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant source	47	5.4%	113	6.7%
The most significant source . .	26	3.0	102	6.1
No response	792	91.6	1462	87.2
Total	865	100.0%	1677	100.0%

TABLE 124.--THE "GI BILL" AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR MAJOR FIELDS

Major field	A significant source	The most significant source	No response	Number
1	2	3	4	5
Special education	18.0%	12.0%	70.0%	50
Administration	31.2	12.9	55.9	621
Curriculum	15.7	7.8	76.5	115
Physical education	23.3	13.1	63.6	107
Practical arts	15.6	10.2	74.2	128
Social foundations	9.5	14.3	76.2	63
Subject areas	25.0	14.6	60.4	164
Mathematics or science.	27.3	15.6	57.1	77
Educational psychology	21.5	9.4	69.1	149
Secondary education	23.2	15.2	61.6	99
Elementary education	23.1	7.7	69.2	130
Higher education	19.7	14.1	66.2	71
Guidance.	22.0	13.9	64.2	173
Clinical psychology.	22.4	11.2	66.3	98
Student personnel administration. . . .	31.8	13.6	54.5	44

TABLE 125.--SAVINGS AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR PH.D.'S AND ED.D.'S

Rating of source	Ph.D.		Ed. D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant source	286	33.1%	623	37.1%
The most significant source . .	77	8.9	193	11.5
No response	502	58.0	861	51.4
Total	865	100.0%	1677	100.0%

TABLE 126.--TEACHING OUTSIDE THE UNIVERSITY AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR PH.D.'S AND ED.D.'S

Rating of source	Ph.D.		Ed.D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant source	75	8.7%	178	10.6%
The most significant source . .	68	7.9	184	11.0
No response	722	83.4	1315	78.4
Total	865	100.0%	1677	100.0%

TABLE 127.--OTHER WORK OUTSIDE THE UNIVERSITY AS A SOURCE OF FINANCE DURING RESIDENCY, BY LEVEL OF IMPORTANCE FOR PH.D.'S AND ED.D.'S

Rating of source	Ph.D.		Ed. D.	
	Number	Percent	Number	Percent
1	2	3	4	5
A significant source	151	17.5%	201	12.0%
The most significant source . .	69	8.0	95	5.7
No response	645	74.5	1381	82.3
Total	865	100.0%	1677	100.0%

TABLE 128.--SOURCES OF SCHOLARSHIPS, FELLOWSHIPS, AND OTHER AWARDS

Sources of awards	Of total	Of those holding awards	
	Percent	Percent	Number
1	2	3	4
University.	11.4%	56.9%	291
State veteran's organization or fund. . .	0.7	3.7	19
State department of education	0.6	3.1	16
Foundation or institute	4.6	23.1	118
Business or industry.	0.6	2.7	14
School district.	0.1	0.4	2
Other.	0.9	4.3	22
No response, but scholarship held. . . .	1.1	5.8	29
No response, no scholarship held	79.9	0.0	2031
Total	100.0%	100.0%	2542

TABLE 129.--ORGANIZATIONS GRANTING LEAVE

Organization	Of total	Of those having leave	
	Percent	Percent	Number
1	2	3	4
College or university	5.9%	56.2%	149
Public school district	3.3	31.7	84
Business or industry.	0.2	1.5	4
Service organization.	0.9	8.7	23
No response, but on leave	0.2	1.9	5
No response, no leave	89.5		2277
Total	100.0%	100.0%	2542

TABLE 130.--LENDING AGENCIES FOR DOCTORAL WORK

Lending agencies	Of total Percent	Of those using loans Percent	Number
1	2	3	4
College or university	3.1%	27.7%	79
Friends	0.7	6.3	18
Relatives	3.1	28.1	80
Bank	1.9	17.2	49
Credit union	0.6	5.3	15
Foundation	0.2	1.8	5
Organizational loan	0.6	5.6	16
Other	0.6	5.6	16
No response, but loans used	0.3	2.4	7
No response, no loans used	88.9		2257
Total	100.0%	100.0%	2542

TABLE 131.--DUTIES OF ASSISTANTS[a]

Duties performed	Number	Percent
1	2	3
Teaching	691	27.2%
Research	351	13.8
Guidance, counseling	160	6.3
Clinical work	61	2.4
Assistant to instructor	354	13.9
Placement	33	1.3
Administration or supervision	125	4.9
Supervising student teachers	154	6.1
Other		
Design or production of instructional materials	6	0.2
Consultant	12	0.5
Other	116	4.6

[a] The percents presented in the table relate to the total sample. However, it should be remembered that only approximately 53% of the sample held assistantships. The percent, then, could be corrected by dividing each number by the appropriate divisor (see Table 110).

TABLE 132.--INCIDENCE OF TEACHING ASSISTANTSHIPS, BY MAJOR FIELDS

Major field	Number	Percent
1	2	3
Special education	50	40.0%
Administration	621	15.1
Curriculum	115	23.5
Physical education	107	42.1
Practical arts	128	41.4
Social foundations	63	31.7
Subject areas	164	32.3
Mathematics or science	77	40.3
Educational psychology	149	32.9
Secondary education	99	31.3
Elementary education	130	30.0
Higher education	71	29.6
Guidance	173	20.2
Clinical psychology	98	21.4
Student personnel administration	44	15.9

TABLE 133.--INCIDENCE OF RESEARCH ASSISTANTSHIPS, BY MAJOR FIELDS

Major field	Number	Percent
1	2	3
Special education	50	18.0%
Administration	621	17.1
Curriculum	115	13.0
Physical education	107	2.8
Practical arts	128	18.0
Social foundations	63	15.9
Subject areas	164	1.8
Mathematics or science	77	7.8
Educational psychology	149	22.8
Secondary education	99	16.2
Elementary education	130	10.8
Higher education	71	11.3
Guidance	173	9.2
Clinical psychology	98	13.3
Student personnel administration	44	13.6

TABLE 134.--INCIDENCE OF GUIDANCE OR COUNSELING ASSISTANTSHIPS, BY MAJOR FIELDS

Major field	Number	Percent
1	2	3
Special education	50	2.0%
Administration.	621	1.0
Curriculum	115	2.6
Physical education	107	2.8
Practical arts	128	3.9
Social foundations.	63	4.8
Subject areas.	164	4.9
Mathematics or science . .	77	....
Educational psychology . . .	149	15.4
Secondary education	99	1.0
Elementary education	130	5.4
Higher education	71	7.0
Guidance	173	20.2
Clinical psychology.	98	19.4
Student personnel administration.	44	20.5

TABLE 135.--INCIDENCE OF ASSISTANTSHIPS INVOLVING SUPERVISION OF STUDENT TEACHING, BY MAJOR FIELDS

Major field	Number	Percent
1	2	3
Special education	50	6.0%
Administration	621	2.7
Curriculum.	115	15.7
Physical education	107	4.7
Practical arts	128	3.1
Social foundations.	63	6.3
Subject areas	164	13.4
Mathematics and science. . .	77	7.8
Educational psychology	149	4.7
Secondary education	199	4.0
Elementary education	130	15.4
Higher education	71	1.4
Guidance	173	1.7
Clinical psychology.	98	1.0
Student personnel administration.	44	4.5

TABLE 136.--TYPES OF HOUSING USED WHILE IN RESIDENCE

Types of housing	Housing used		Housing most often used	
	Number	Percent	Number	Percent
1	2	3	4	5
Residence hall.	217	8.5%	215	8.5%
University apartments.	104	4.1	207	8.1
Veteran's housing.	67	2.6	158	6.2
Rented apartment or room off campus .	352	13.8	627	24.7
Trailer (owned)	12	0.5	13	0.5
Trailer (rented).	12	0.5	7	0.3
House (owned)	133	5.2	423	16.6
House (rented).	153	6.0	204	8.0
Housing rent-free for services	21	0.8	25	1.0
Other				
Lived with family	35	1.4	66	2.6
Commuted.	13	0.5	27	1.1
Other.	44	1.7	60	2.4

TABLE 137.--INCIDENCE OF HOUSING PROBLEMS

Response	Number	Percent
1	2	3
Housing problems occurred	655	25.8%
No housing problems occurred	1887	74.2
Total	2542	100.0%

00080

TABLE 138.--CAUSES OF HOUSING PROBLEMS

Causal factors	Of total Percent	Of those indicating problems Percent	Number
1	2	3	4
Inadequate in terms of family needs	8.1%	31.6%	207
Lack of availability	4.1	15.7	103
Lack of aid in securing adequate housing	1.7	6.4	42
Poor quality of available housing	7.1	27.6	181
High cost	13.7	53.1	348
Other	2.8	11.0	72

TABLE 139.--NUMBER OF PERSONS HOUSED WHILE IN RESIDENCE

Number housed	Number	Percent
1	2	3
One	468	18.4%
Two	398	15.8
Three	389	15.3
Four	540	21.2
Five	248	9.8
Six	97	3.8
Seven	23	0.9
Eight	7	0.3
Nine or more	3	0.1
No response	369	14.5
Total	2542	100.0%

TABLE 140.--METHOD USED TO PAY TUITION AND FEES, BY PH.D.'S AND ED.D.'S

Method of payment	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Paid by self	402	46.5%	795	47.4%	1197	47.1%
Paid partially by self	4	0.5	3	0.2	7	0.3
Paid by university	90	10.4	78	4.7	168	6.6
Paid partially by university	96	11.1	151	9.0	247	9.7
Paid by another organization	141	16.3	318	19.0	459	18.1
Paid partially by another organization	108	12.5	244	14.5	352	13.8
Other	8	0.9	8	0.5	16	0.6
No response	16	1.8	80	4.7	96	3.8
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 141.--SOURCES OF AID, OTHER THAN UNIVERSITY, IN PAYMENT OF TUITION AND FEES

Type organization	Of total Percent	Of those receiving aid Percent	Number
1	2	3	4
"GI Bill" or Veteran's Administration	26.1%	81.9%	664
Foundation or institute	3.6	11.2	91
State veteran's organization	1.0	3.2	26
Business or industry	0.2	0.5	4
Other	1.8	5.5	45
No response, but aid received	0.7	2.2	18
No response, no aid	66.6		1694
Total	100.0%	100.0%	2542

Chapter VIII

SINCE THE DEGREE

It was imperative that an employment census be included in this study. For AACTE and for the profession as a whole, it seemed desirable to have facts concerning the employment of persons with new doctorates in education. It was not expected that all would accept similar employment, but there was uncertainty as to where current boundaries of opportunity might lie for these people.

During the academic year 1958-59, teaching was the primary duty of 50.4 percent of the respondents; nonteaching positions were held by 49 percent of the group (see Table 142). Colleges, universities, and public schools entered into contract with 84.1 percent of the group; colleges and universities alone employed 57 percent (see Table 143). It is difficult to estimate how many of the remaining 16 percent are lost to professional education, but it appears that only about 5 percent left the field completely. The proportion of Ed.D.'s and Ph.D.'s who taught is quite similar, but the two populations are otherwise dissimilar. A greater proportion of the Ed.D.'s were engaged in administration; a greater proportion of Ph.D.'s were involved in personnel work. The Ed.D.'s and Ph.D.'s frequently were employed by different types of organizations. Only 15.3 percent of the Ph.D.'s held public school positions. The percentage of Ed.D.'s in college and university positions was slightly lower than for Ph.D.'s, but not greatly so. Considerably more Ph.D.'s held jobs in the category, "other public supported institutions." It was not unexpected that graduates in the various major fields would be employed in different types of positions and in a variety of organizations. The differences are readily apparent (see Table 144). Using 50.4 percent as the expected proportion of graduates in teaching (see Table 142), it appears that clinical psychology (27.6 percent), administration (31.2 percent) and guidance (34.1 percent) sent relatively few of their graduates into teaching, whereas subject matter fields (81.1 percent), secondary education (72.7 percent), mathematics or science 84.4 percent), and physical education (73.8 percent) seemed to send a high proportion of graduates into teaching. Higher education sent the greatest proportion of graduates into colleges and universities (85.9 percent); the practical arts (78.9 percent), the subject matter areas (76.3 percent), and physical education (75.7 percent) follow closely behind (see Table 145).

Institutions differed in the proportion of graduates who were employed in public school positions in 1958-59.[1] The range was from 56.0 percent to 2.2 percent. It was noted previously that institutions also vary markedly in the proportion of graduates who held public school positions prior to receipt of the doctoral degree. When institutional rank based upon number of registrants employed by public schools just prior to receipt of the degree was correlated with rank based upon number of individuals in public school positions in 1958-59, the result was .71. This tends to confirm the thought that universities which draw large numbers of doctoral students from the public schools return large numbers of doctoral recipients to the public school. However, in terms of the proportion of doctoral recipients returned to the public schools, the relationship is an inverse one.

The data presented in Table 146 provide important information concerning the impact of the 91 institutional programs upon the supply of top-level leadership for teacher education. Approximately two-thirds of the respondents considered themselves involved in teacher education; just over one-fourth indicated that they definitely were not involved in teacher education. Practical arts, curriculum, elementary and secondary education majors had high proportions in teacher education, while clinical psychology, student personnel administration, and guidance majors were least often involved (see Table 147). Among the 38 highest producing institutions, the proportion of graduates entering teacher education varied from 89.6 percent to 39.1 percent. It is difficult to attribute this great range to the operation of any single factor, but one cannot help but surmise that the kinds of programs offered or emphasized, the kinds of persons attracted by the institution and its programs, and the purposes and philosophies of the departments all operate to guide graduates into or away from teacher education positions.

The perceived importance of student-staff relationships was re-emphasized in responses to the instruction to "indicate the source of greatest assistance" in obtaining a position (see Table 148). The 2542 respondents held 3071 positions in the academic years 1957-58 and 1958-59. In approximately 28 percent of the instances graduates gave greatest credit to the teaching faculty of their doctoral institution. If one adds to this the 13.3 percent who credited its placement office, approximately 40 percent of the placements were attributed in great measure to efforts of staff in the degree-granting institution. The other primary sources of assistance were representatives of the employing organization (17.1 percent) and the efforts of the respondents themselves (13.8 percent). Approximately 11 percent of the positions were filled by the return of graduates to positions or systems in which they had been previously employed.

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[1] Data for 1957-58 positions are tabulated in Appendix A, but are not interpreted because of uncertainty as to which were post-doctoral positions.

TABLE 142.--TYPES OF POSITIONS HELD BY PH.D.'S AND ED.D.'S DURING THE ACADEMIC YEAR 1958-59

Types of positions	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Teaching--including						
a. Supervision of student teaching unless specifically stated as being an administrative position	458	52.9%	824	49.1%	1282	50.4%
Administration--including						
a. Research in administration						
b. Public relations						
c. Business manager						
d. Building and equipment analyst or specialist	144	16.6	537	32.0	681	26.8
Personnel services--including						
a. Directors and supervisors						
b. Heads of testing service	122	14.1	96	5.7	218	8.6
Instructional services--including						
a. Directors, coordinators and supervisors						
b. Consultant						
c. Directors of testing directly related to instruction	85	9.8	177	10.6	262	10.3
Other	48	5.7	38	2.3	86	3.3
No response	8	0.9	5	0.3	13	0.6
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 143.--TYPES OF ORGANIZATIONS EMPLOYING PH.D.'S AND ED.D.'S FOR THE ACADEMIC YEAR 1958-59

Types of organizations	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Public school district	132	15.3%	557	33.2%	689	27.1%
College or university	526	60.8	924	55.1	1450	57.0
Service organization	131	15.2	143	8.5	234	10.8
Business or industry	36	4.2	16	1.0	52	2.0
Other	25	2.9	23	1.3	48	1.9
No response	15	1.6	14	0.9	29	1.2
Total	865	100.0%	1677	100.0%	2542	100.0%

TABLE 144.--TYPES OF POSITIONS HELD BY THE VARIOUS MAJORS DURING THE ACADEMIC YEAR 1958-59

Major field	Teaching	Adminis-tration	Personnel services	Instructional services	Other	No response	Number
1	2	3	4	5	6	7	8
Special education	48.0%	14.0%	16.0%	22.0%	...	...	50
Administration	31.2	55.9	2.4	8.2	2.0%	.3%	621
Curriculum	58.3	22.6	2.6	13.9	2.6	...	115
Physical education	73.8	11.2	2.8	10.3	1.9	...	107
Practical arts	70.3	13.3	3.1	11.7	1.6	...	128
Social foundations	69.8	14.3	1.6	4.8	6.4	3.1	63
Subject areas	81.1	7.9	2.4	6.1	1.8	.7	164
Mathematics or science	84.4	6.5	2.6	6.5	...	...	77
Educational psychology	53.0	11.4	17.4	14.8	2.7	.7	149
Secondary education	72.7	18.2	...	8.1	...	1.0	99
Elementary education	62.3	26.2	1.5	7.7	2.3	...	130
Higher education	59.2	25.4	1.4	11.3	2.7	...	71
Guidance	34.1	22.5	27.2	11.0	4.6	.6	173
Clinical psychology	27.6	8.2	43.9	6.1	12.2	2.0	98
Student personnel administration	18.2	50.0	18.2	11.4	2.2	...	44

TABLE 145.--TYPES OF ORGANIZATIONS EMPLOYING THE VARIOUS MAJORS FOR THE ACADEMIC YEAR 1958-59

Major field	Public school district	College or university	Service organization	Business or industry	Other	No response	Number
1	2	3	4	5	6	7	8
Special education	34.0%	40.0%	26.0%	...	...	...	50
Administration	52.1	38.4	7.3	1.0%	.4%	.8%	621
Curriculum	27.8	60.0	10.4	.9	.9	...	115
Physical education	15.0	75.7	7.5	.9	.9	...	107
Practical arts	10.2	78.9	9.4	.7	...	.8	128
Social foundations	15.7	68.3	4.8	3.2	4.8	3.2	63
Subject areas	14.6	76.3	6.1	1.2	.6	1.2	164
Mathematics or science	27.3	68.8	3.9	...	...	...	77
Educational psychology	16.8	61.0	16.2	2.7	2.0	1.3	149
Secondary education	26.3	69.7	4.0	...	...	...	99
Elementary education	28.5	65.3	3.8	.8	.8	.8	130
Higher education	1.4	85.9	4.2	4.2	4.3	...	71
Guidance	20.8	52.0	16.3	5.2	4.0	1.7	173
Clinical psychology	8.2	39.7	37.8	2.0	9.2	3.1	98
Student personnel administration	18.2	65.9	6.8	4.5	2.3	2.3	44

TABLE 146.--INCIDENCE OF INVOLVEMENT IN TEACHER EDUCATION, 1958-59

Response	Number	Percent
1	2	3
Involved in teacher education	1678	66.0%
Not involved in teacher education	690	27.2
Involved part time in teacher education	23	0.9
No response	151	5.9
Total	2542	100.0%

TABLE 147.--INCIDENCE OF INVOLVEMENT IN TEACHER EDUCATION, 1958-59, BY MAJOR FIELDS

Major field	Involved in teacher education	Not involved in teacher education	Part time	No response	Number
1	2	3	4	5	6
Special education	64.0%	30.0%	...	6.0%	50
Administration	64.4	27.7	.6%	7.2	621
Curriculum	80.9	14.8	.9	3.5	115
Physical education	40.1	9.7	.5	1.4	107
Practical arts	78.1	19.5	.8	1.6	128
Social foundations	73.0	15.9	...	11.1	63
Subject areas	65.9	29.3	.6	4.3	164
Mathematics or science	72.7	24.7	1.3	1.3	77
Educational psychology	59.1	32.9	.7	7.4	149
Secondary education	81.8	16.2	...	2.0	99
Elementary education	88.5	5.4	1.5	4.6	130
Higher education	60.6	32.4	1.4	5.6	71
Guidance	50.9	41.0	1.2	6.9	173
Clinical psychology	45.9	42.9	...	11.2	98
Student personnel administration	54.5	38.6	...	6.8	44

TABLE 148.--SOURCES OF ASSISTANCE IN OBTAINING POSITIONS

Sources of assistance	Number[a]	Percent
1	2	3
Major professor or adviser	588	19.1%
Other staff members	267	8.7
Placement office of doctoral institution	408	13.3
Representative of employing organization or institution	525	17.1
Placement office of another institution	59	1.9
Commercial employment agency	68	2.2
Professional organization (AAUP)	41	1.3
Other		
None--formerly worked in system	66	2.1
Self	424	13.8
Friends	82	2.7
None--returned to former position	280	9.1
Professional colleagues	64	2.1
Former employer	20	0.7
Other	179	5.9
Total	3071	100.0%

[a] "Number" in this table refers not to individuals but to number of positions. In all, over the two academic years, 1957-58 and 1958-59, the individuals in the sample (2542) were involved in 3071 positions. Therefore, the percents are based on these 3071 positions.

Chapter IX

SOME COMMENTS OF RESPONDENTS

A questionnaire returned without some kind of summary comment, or without some qualified or elaborated comments, was the exception rather than the rule. These comments often dealt with some condition or situation unique to the individual. However, these comments frequently reflected a general kind of reaction which the respondent seemed to feel was a condition of the program. While this feeling on the part of the respondent may not be an accurate, factual description of the program, it is a fact that this is the way he feels.

The comments contained in this chapter were chosen because they seem to capture certain moods or feelings which could not be obtained by questionnaire items. Granted the subjective nature of such evidence, it is presented, nevertheless, as food for thought. Actual comments of respondents are used to limit somewhat the subjective views of the reporter.

The purpose of a study and the instruments used can promote positive or negative attitudes on the part of those who are asked to serve as subjects. If there is a general feeling that the study is not important, or that it is unlikely to contribute to the solution of a significant problem, this feeling is likely to be reflected in the responses of the subjects. If the measuring instruments are felt to be inadequate, poorly organized, invalid, or too long, the responses are again likely to be affected. However, the feeling is not likely to be unanimous in either a positive or a negative direction no matter how significant the problem or how adequate the instruments.

At one point in the questionnaire, respondents were asked if they wished to be informed when the study was completed. If replies can be used as an index of reaction to the study, the total response was highly favorable, for 92.5 percent responded positively (see Table 149). Unsolicited comments on this point are exemplified by statements such as the following: "I consider this document as a considerable imposition, but I hope something interesting happens as a result of the data you gather...." and "Now you have a lot of 'facts' to play statistics with. If they help to defray the cost of graduate study, fine; if they even help someone pull through, fine; but if they just chalk up one more degree for someone, I'm afraid it is an imposition."; "Thank you for the opportunity of participating in this study...."; "I would be very interested in and desirous of the results of this inquiry....the study should have great value to future doctoral candidates and excellent reference to those who have completed their work."

Comments regarding the questionnaire were divided. Some of the graduates wrote as follows: "This questionnaire certainly seems to get to the core of the matter...."; "A most thorough questionnaire, Congratulations. This is a worthwhile effort. I hope many of the suggestions from the study can be implemented!"; "I'd like copies of the questionnaire for teaching purposes, if available--it's extremely well done...."; "It was a pleasure to fill out this questionnaire--your arrangement was perfect--easily understood and compact...."; "This is really a soul-searching questionnaire. I have endeavored to be exceedingly candid. The completed study should be a most interesting document." Others said: "This questionnaire misses completely some of the most significant points regarding graduate study...."; "You ask too many things for most recipients to respond, I feel...."; "This form seemed not too appropriate at times for one teaching in professional schools, and selecting teaching after basic professional preparation, as a means of promoting improved service of the profession. Nor do your questions or perhaps my answers, seem to suggest the atmosphere and work experienced by me while working on my dissertation...."1/; "An admirable project--questionnaire too long...."; "It would surprise me if any one could fill the form out intelligently in an hour....I have read again the purpose of the questionnaire and I believe I could provide you with the necessary data in an organized way, under topics, in a form that would have given you far greater understanding than the answers on the enclosed form...a pretest on such a basis as I suggest might have suggested a form that would, I think, have been more meaningful."

Generally then, reaction to the study was highly positive; feeling about the questionnaire was more mixed. The length of the questionnaire was a matter of some concern to its designers. Since the returns approached 80 percent, length must not have been a great deterrent. One comment touched upon a weakness in procedure--the absence of a pilot study. For the record, it should be noted that many people responded to preliminary sets of items. Some had recently completed a doctoral program; some were engaged in such a program at the time. Because the total population was so diverse, it was assumed that each item would not be equally appropriate for all respondents.

Several respondents were sufficiently interested in the project to comment that it would be valuable only to the extent that steps would be taken to implement program changes which seem desirable in the light of this feedback from graduates. Theirs was a concern which was shared by those who originally conceived the study.

1/This individual majored in nursing education.

Others observed: "A similar study of those doctoral candidates who are unable to complete requirements should be even more helpful in assessing the problems involved...."; "I wish the committee had seen fit to carry the study a step further and make the inquiry into: 'Why doctoral candidates (those who have passed qualifying and prelim examinations) fail to complete the degree requirements and finish writing their dissertations.'" This was a serious omission, and one which demanded attention in the early stages of planning. Since the primary objective of this inquiry was to determine conditions under which the doctoral study was accomplished, rather than to study differences between successful and unsuccessful candidates, it was believed that the objective could best be achieved by canvassing successful candidates. Moreover, it was assumed that successful candidates encountered the same conditions and situations as did the unsuccessful ones, the primary difference lying in the fact that in the one instance the conditions were dealt with successfully. It was undoubtedly easier, also, to contact the candidates who had so recently received the degree.

It is quite likely that a study of unsuccessful candidates would reveal factors not brought to light in this study. A desirable sequel to this study actually would be an investigation of these individuals, and such will be formally recommended.

A number of difficulties, some of which were made apparent by answers to formal questionnaire items and others of which came to light in the comments, focused upon personal relationships. These were described sometimes as student-faculty differences and other times as faculty-faculty differences which had consequences for students. For example, some of the graduates commented as follows: "I do not regret attending ________ which I feel to be an outstanding institution. Unfortunately, at the time of my attendance, personality conflicts among administrators...candidates found themselves in the midst of the conflict. This...did not enable me to make lasting contacts among the professors on campus. I miss these sorely and feel that an important part of my graduate program was lost as a consequence of these unfortunate circumstances...."; "Conflicts within the faculty regarding the purposes of the Ed.D. as compared to the Ph.D. were personalized in many doctoral programs, to the point that some students were victims of these conflicts. Not all cases were fatal but they caused many anxieties. Coupled with insufficient counseling time, the tribulations did cause some good students to say, 'What's the use?'...."; "I have known several promising young men who would have gone ahead to earn the doctorate and been of real service had they received a bare minimum of inspired teachers and challenging course programs. The amount of duplication in course material, 'stupid' educational mechanics such as committees, 'buzz sessions,' and the like made these serious students ashamed to be in the field."; "Concerning professor-student relationships, the large, urban university seems eager to enroll doctoral candidates but unable to provide the close professional relationship such study needs. There are too many candidates for the hours available to professors. On several occasions I was held up in my research for weeks waiting for a half-hour appointment required to get approval to go ahead."; "I was a candidate for the Ph.D. degree but in August of 1954 the graduate committee declared any dissertation which was primarily a contribution to education should receive the D.Ed. From 1954 to 1957 I revised, added, subtracted, etc. to meet the fundamental knowledge requirements, but by 1957 I gave up and accepted the D.Ed. with the understanding that the Ph.D. and D.Ed. were equal but different...."; "The most frustration I had during my doctorate study came after I handed in my dissertation--to get the committee to read it and to get it back for revision on their suggestions (this took about 8 months)...."; "The period of study was prolonged by conflict with major adviser over organization and development of thesis problem. Finishing the thesis was possible because of support of other professors in major departments and the willingness of department heads to arrange appointment of a new advisory committee...."; "Personal bickering and jealousy among departments is a terrific hindrance to the obtaining of a doctor's degree."

Naturally, these comments cannot be taken as a cross section of feeling on the part of the respondents. However, conditions were mentioned which contributed to such matters as length of a program and anxiety of candidates. It would be interesting to learn how many potential doctorates were lost because of conditions such as those mentioned above. The fact that these comments may not objectively describe conditions which existed is almost irrelevant. A candidate is more likely to drop out of a program because of his perception of conditions, and his feelings about the perceived conditions, than because of conditions in reality. Of course, perceived and real conditions are not necessarily independent.

Other factors of a personal nature, most of which were related to finance, often discouraged the candidates. Some of the graduates commented: "Had I been able to get family housing in 1947-48, I could have accepted an assistantship and completed the work in residence in less than a third of the time eventually required. Financing, housing, and a sense of belonging are all crying needs that I look back upon during my graduate study...."; "I returned to my position at ________ College after completing my residency and passing my examinations. I found it extremely difficult to find blocks of time to concentrate on my dissertation after my return...."; "Qualitatively, my class work and study during periods when I was teaching full time fell far short of the class work and study I completed during periods of complete devotion to these things. Although this was not always reflected in marks attained, it was most certainly reflected in the sort of learnings I attained from class work as compared to the tangible learnings accumulated during research and thesis writing....''; ''All through my graduate work I was a full-time employee of the universities, taking a maximum of 6 hours credit per semester and 3 hours during the summer session. Time taken for course work was worked off in overtime...I am convinced that the best way to acquire a Ph.D. is to go to school full time while your rich parents support you....''; ''The jobs (outside the university taken to finance the program) were usually of interest, although on occasion tedious and routine enough to cause me some loss of interest in my stidues later in the day or evening, fatigue being the stimulus to want to 'escape' work and study.... This study might help students a lot if it shows the right administrators and agencies how to provide more encouragement and financial assistance to students....''; ''What appears to be needed is a re-evaluation of the cost of supporting a family and offering to doctoral candidates with families a chance to earn sufficient money as a teaching assistant at the school where he is pursuing his studies. Thus, he does not have to seek other jobs, and the time normally spent in travel to other jobs can be utilized for study and research at the university.''

Two other graduates commented as follows: ''Obviously, the process of cutting corners sufficiently to complete a doctoral program without financial assistance from the university results in certain stress and strain. I was in the unique position of specializing in a field where there was no need for instructional help so that it was more appropriate to find full-time work which would complement my program than to try to make my way through on the basis of menial half-time jobs....''; ''The loss of G.I. benefits in the spring of 1951 necessitated my seeking full-time employment in September 1951. I was able, however, to complete course work, pass both foreign language exams, the preliminary exam, and establish residency for the degree by September of 1951, but was unable to complete my dissertation. Following the acceptance of full-time employment, an exceptionally heavy teaching load for a period of 4 years prevented any appreciable progress on the dissertation except for one summer spent in residence at my own expense.''

All of these comments seem to point to the difficulties involved when employment must be accepted for financial reasons. In every case the program was considerably lengthened--by a period of several years. On the basis of data accumulated on ''length of the program,'' it appears that the individuals who wrote these comments may be speaking for the majority of the sample.

Another financial aspect of doctoral study in education was expressed by the following comments: ''I hope your report points up this type of situation: (1) Teaching 6th grade in an elementary school for $5400 per year; (2) teaching in a university, supervising student teachers and teaching graduate courses for $5400 per year. After two years experience in my college position, I could still be making more money as a 6th-grade teacher....''; ''Plan to enter college teaching summer 1959 and will make much less money than I have as a high school teacher. This situation is discouraging career teachers from obtaining advanced degrees.''

Other comments relative to entering college teaching were made as follows: ''I have 22 years secondary school experience, and even with an Ed.D. degree find it difficult to enter the college field as a teacher. Why do teacher-training institutions prefer previous college teaching experience in applicants? Experience in the field has little attraction with much to offer....''; ''If you are seeking a position in a college or university, a doctorate seems to be essential to the hiring institution. Some school districts attach some prestige value to the degree. Seemingly in most of __________ it is not too significant a factor as a requirement for public school administration. I have heard the comment a number of times that 'he spent all of his time earning a doctorate and didn't have any left to learn his job.' At times, I have felt that there is some truth in this opinion. Particularly in the case of college instructors of school administration and finance who have never had any practical contact with the field they teach. Sort of a 'blind leading the blind' class situation. Why not develop a field experience program for college professors--many of them would profit from the experience--particularly the young men in smaller state and private colleges.''

Several commentators gave relatively concise over-all reactions to their doctoral study. Some of these are worthy of mention. One individual remarked on the fact that he found the program pleasant and then went on to say: ''Several friends have rebelled at some of the requirements such as language, preliminary and general exams. This rebellion caused difficulty in disciplining themselves to put forth the necessary effort. Other friends have started the doctorate because of pressure from administration. These friends had had difficulty making progress because they have not convinced themselves that they want to get a doctorate badly enough to put forth the necessary effort, give up the pleasures of life, and suffer through the unavoidable frustrations.'' Other individuals commented similarly: ''In the area of finances, housing, etc., there are certain costs involved in attaining any objective. I do not feel a student should expect things 'given' just because he is a student. I am proud of the fact I worked my way through __________ from beginning to end of my college training....''; ''I wish to say that despite the occurrence of any 'critical' periods as defined in this inquiry, my experiences during the postgraduate program were wholesome and even enjoyable at times. I do not regret any of the sacrifices which had to be made to achieve the objective....''; ''The education I received in the doctoral undertaking was worthwhile in every way; however, the sacrifice and time involved have been most detrimental to me physically (only momentarily, I hope). Receiving the doctorate has hurt my future at current employment, if you can imagine such a thing!...."; "Hard to say if financial aspect ever critical--I always managed but at the subsistence level and much additional outside work--I doubt if I could stand the rigors now...."; "I still feel as if I hadn't quite come in from a 'hail storm'...."; "For my own amusement... I figured out at one time that I would have to teach until age 90 to recover what I had actually paid out on the doctoral program, based on the additional salary I get because of my doctor's degree...."; "Would I do it again? No--am I glad I did it?--Yes...."; "There are two prime elements needed for people to complete higher graduate work 1. money; 2. fortitude. The first might be made available to many more--the second is in the hands of God."

It is hoped that these comments have conveyed some of the feelings and opinions of the graduates about their doctoral programs. While all of the data indicate that the respondents have a highly favorable disposition toward their study, the institutions, the staff, and their degree, there can be no doubt but that these feelings are mixed with memories of hardship, anxiety, and conflict. To what should these more negative reactions be attributed? Many of these reactions, undoubtedly, are due in part to personal characteristics of the individuals themselves; but the institutions, their administrators, and staff must also accept some responsibility.

TABLE 149.--GRADUATES WISHING TO BE INFORMED OF THE COMPLETED STUDY

Response	Number	Percent
1	2	3
Wish to be informed	2351	92.5%
Do not wish to be informed.	123	4.8
No response	68	2.7
Total	2542	100.0%

Chapter X

SUMMARY AND CONCLUSIONS

As one phase of a larger inquiry aimed ultimately at increasing the quantity and quality of doctoral degree holders in the field of professional education, this study undertook to survey conditions affecting pursuit of the doctoral degree in education. Questionnaires were sent to all available individuals who received the Ed.D. or Ph.D. in education between September 1956 and September 1958. Responses were received from 78.5 percent of the persons polled. The respondents represented 91 institutions which award the doctorate in education.

No hypotheses were drawn prior to the study; rather, the purpose was the development of hypotheses. Statistical procedures were used sparingly with the data and, when used, consisted of chi-square analysis and rank correlation. All data were coded for IBM tabulation. The tabulations made were (a) across all items (the mass data), (b) across major fields, (c) across degrees, and (d) across institutions.

Summary treatment of this data has led to interpretations which are greatly condensed, speculative in nature, and, by design, suggestive rather than definitive.

MAJOR FINDINGS AND IMPLICATIONS

1. The production of Ed.D.'s was almost double that of Ph.D.'s. Some basic differences were apparent in the two populations of graduates. The differences seemed primarily to distinguish the "practitioner" from the teacher and researcher. There were many exceptions to frequently mentioned differences between the degrees, many of which indicated that factors other than academic and vocational goals of students affect the choice of degree. One such factor seemed to be institutional policy; for example, a given institution might offer only the Ph.D., but a significant number of its degree candidates would have practitioners' goals.

2. The areas of specialization in which doctoral students majored were numerous and varied in nature; they ranged from administration to the teaching of anthropology. The responses gave the distinct impression that graduates from the various areas of specialization were not equally interested in professional education. Some manifested an intense dedication to education; others appeared to have been enrolled in a program which chanced to be offered by a college or department of education. Clinical and counseling psychology major's were typical of this latter group and often commented about their lack of interest by pointing to the accident of the receipt of their degree in an education department. Graduates in certain fields sometimes did not classify themselves in the same major categories as did the institutions which granted the degrees.

3. There were approximately four men to each woman in the sample. Women were conspicuous by their absence in certain major fields, for example, administration. In other fields, women dominated the list of graduates. In view of the number of women who teach in American schools, one might expect that the proportion completing doctoral studies would or could be greater than it is.

4. The sample can be characterized sociologically as strongly mobile in an upward direction. This is a professional group, but only 29 percent of their fathers were engaged in professional, semiprofessional, or managerial activities. Almost all have received more education than their fathers did. Many of these graduates were reared in large cities; many, around New York City. The number whose early lives were spent in small villages and rural areas considerably exceeds that which would be expected in terms of the distribution of population throughout this country. This was not equally true for all regions, however. The "great plains" states contributed considerably more graduates than expected; the southern states, considerably fewer than expected. Approximately 80.3 percent of the sample were married and 83.6 percent of those who were married had children. Most spouses had received at least a bachelor's degree.

5. Most graduates were 38 or 39 years of age, or older, when they received their degrees. The range in year of birth was from 1886 to 1933--nearly 50 years. Most had accumulated more than ten years of professional experience prior to receipt of the doctoral degree. Many had also completed two or three years of military service. These facts have numerous implications. Only a few professional years remain for many of these graduates. Although experience is essential for study in education, it does not appear that this will be equally true, or that the amount of experience will be equally great, in all specialties within the field.

6. The individuals in this sample first considered entering the doctoral program rather late in their vocational-educational careers, most often during or after the master's program. The choice of major fields was also made late in their careers, although these decisions were distributed rather evenly throughout the predoctoral period.

7. Professional colleagues and former professors, especially the latter, were the most influential persons in the decision to enter the doctoral program. These graduates most frequently attributed

their motivation to a desire for new knowledge and the desire to remain well qualified in a given field. Motivation was seldom attributed to a single desire.

8. The "GI Bill" was the most essential financial resource used by the graduates; 41.1 percent of the respondents included it in the list of resources used, and an additional 20.1 percent specified it as the most significant single factor in their financial arrangements. Savings, scholarships, and fellowships were also cited as important but were not usually seen as most significant. Also, a sizable group suggested that concurrent full-time work was the enabling factor. The implications here are important. First, the "GI Bill" is disappearing as a financial source. Concurrent work is on the rise, but it would be questionable to suggest that the solution to doctoral candidates' financial problems is to encourage them to work full time. Evidence from this study indicates that these part-time students took much longer to complete the program, had more critical periods, suffered more distractions, were less satisfied with the program, and believed they missed a valuable part of an institution's offerings, namely, student-student and student-faculty interaction.

9. Earlier degrees were obtained from a variety of institutions. Private institutions granted bachelor's degrees to only 22.2 percent of the sample but granted master's degrees to 39.4 percent of the respondents. State institutions awarded approximately one-half of both the bachelor's and master's degrees. As could be expected, there was a definite movement toward more complex institutions as registrants progressed from one degree to another. Only 32.9 percent of the sample majored in education as undergraduates. This seems to suggest that recruiting practices should not be restricted to schools and colleges of education; the social sciences and humanities are fruitful fields as well.

10. Fewer than one-half were employed as teachers in their last position prior to receipt of the degree. In fact, for many, there was a definite movement from teaching to nonteaching positions throughout their vocational career. It appears that teachers needed to experience some success to be willing to attempt the program and that success as a classroom teacher was frequently rewarded by promotion to a nonteaching position. Those who were teaching just prior to receipt of the degree were employed both by colleges (46.8 percent) and by public schools (39.4 percent). Several public school teachers had taken college positions after completing course work but while still working on their dissertations. This accounts for many of the long delays in completing the degree, and possibly explains some of the failures to complete the degree, although this study contains no evidence to support this latter assumption. It is apparent, however, that many candidates were employed at the college level at the beginning of degree work. These may have been the persons whose chief motive for study was the "desire to remain well qualified" and to "advance in rank." These data support the conclusion that the original recruitment of candidates was not confined principally to college staff but, rather, that much of it was directed toward a variety of public school personnel. This was in fact an excellent source of candidates. For professional education as a whole, there remains the consideration as to whether increased recruiting from the public schools would be advantageous.

11. The two most significant factors in the choice of a doctoral institution were: (a) reputation of individual staff members and (b) proximity of the university. It is entirely possible that these two factors are correlated to some degree, in the sense that the Midwesterner looks to the "Big Ten" and the Easterner to the "Ivy League." However, it also appears that "proximity" has an economic factor underlying it. It was found that proximity correlated negatively with availability of assistantships, and that, within the group of institutions which seem to be high in prestige, very few respondents specified proximity as a basis for institutional choice.

12. Attitudes toward nearly all aspects of the doctoral program were highly positive, suggesting something of a halo effect. However, looking at the negative sides of the continua only, some variation was apparent, especially when the Ed.D.'s and Ph.D.'s, major fields, or institutions were compared. Institutional comparisons were especially interesting, in that marked differences were apparent between institutions on nearly every attitude item. Unfortunately, these data cannot be presented, but it is hoped that each institution will examine its own data and evaluate them in light of the total findings.

13. The data show that 35.4 percent of the respondents found it necessary to discontinue temporarily the program at some point. An additional 30.5 percent considered this step. The causes most often cited were work pressures and financial problems, two closely related factors. The work to which these individuals referred was that which was necessary to alleviate financial problems. The same kind of problems perplexed the respondents (58.8 percent of them) who indicated the existence of "persistent and recurring factors which prevented wholehearted attention to doctoral study." While it undoubtedly comes as no great surprise that individuals engaged in graduate study have financial problems, these data offer confirmation as to the magnitude of this problem.

14. The most common single source of income during residency was savings, but it was seldom sufficient. In fact, during residency, most individuals made use of three sources of income to finance the family and the doctoral study. Assistantships, the "GI Bill," and work outside the university were the other major sources of income.

15. The median length of the total program was five years (60 months), but the modal length was

99 or more months. The implications of this are obvious. The time must be shortened, but this is not simply a matter of legislating new policies which specify shorter time limits. This study indicates that numerous institutional and personal variables operate to extend the length of doctoral programs.

16. Approximately one-half of the graduates were teaching during the academic year 1958-59. The remainder were engaged in administration, personnel work, or instructional service. Public schools and colleges employed 84.1 percent of the respondents. Various service organizations employed most of the remainder. Approximately one-fourth of the graduates were not involved in teacher education during this period. Institutions seemed to have different ideas as to the purpose of their programs and, hence, a variety of conceptions as to the type of work graduates should enter. It should also be noted that respondents had different ideas as to what constitutes involvement in teacher education. Apparently, some hold that they must be teaching in a department of education; others feel that supervision or administration in the public schools involves them in teacher education.

The 16 findings summarized above do not represent all possible conclusions to be drawn from the responses. However, these findings are those which appear to be significant and closely tied to the data.

It is the purpose of this study to identify certain "critical" factors which underlie conditions affecting pursuit of the doctoral degree in education, draw some conclusions relative to these factors, and make some recommendations for further study. The critical factors which have been selected can be placed in two categories--namely, (a) those which can be studied by means of further treatment of data already gathered and (b) those which require additional data or the integration of these data with certain other data. Those which can be studied by further treatment of these data seem to fall under six headings:

1. Sociological facts relative to the individual in the sample
2. The age of the graduates
3. The length of the doctoral program
4. Financial factors
5. The occupational sources of students and the kinds of positions taken after receipt of the doctorate
6. Institutional control of factors affecting pursuit of the degree.

Consider first some sociological facts. A large portion of the sample came from community backgrounds of either (a) rural areas and small villages or (b) large cities. This fact becomes critical when it is seen that these two groups were vastly different in many respects. They had different interests, they entered different major fields, and they took different kinds of positions after completing the program. The rural-village graduates became elementary education majors, curriculum specialists, and administrators, while those who originated in the large city became clinical psychologists, educational psychologists, and subject area specialists. The groups took different degrees; the rural-village group preferred the Ed.D., and the large city group, the Ph.D. It can be hypothesized that similar differences would appear on other variables. It is suggested, therefore, that these two groups be separated from the total sample and that the data be summarized with respect to these two subgroups. The findings of such a summary may prove important for recruiting practices in various institutions. This would provide a basis for institutions in putting geographical location, student background, and similar factors into perspective as a partial guide for recruiting and program formulation. Similar comparisons of occupational backgrounds (e.g., professional, agricultural, skilled labor, etc.) might also bring interesting differences to light.

More facts need to be uncovered relative to the age variable. No doubt useful information would be found in a summary of the responses by the youngest and oldest one-fourth of this population. It may be found that older persons tend to go into certain areas of specialization, that they tend to remain in their old positions, that they come from different backgrounds, and that they are motivated by different values and goals. It has been noted herein that members of the younger group spend more time in residence, make more use of assistantships (or are more often granted assistantships), prefer certain institutions (or are accepted more often by certain institutions), and more often select the Ph.D. degree. We do not know whether the two age groups make distinctive contributions. It is possible that contributions are sufficiently unique and desirable to warrant renewed emphasis on recruitment at both age levels.

The time required to progress through required courses to the completed dissertation was extremely great. A wide variety of factors apparently influenced this variable. It is noted, however, that a number of these factors are related to institutional policies. When institutions were ranked on the basis of median length of program, there was a difference of five years between the highest and lowest institution. One way to study this phenomenon would be to seek similarities and differences within and between the institutions at the two extremes. Intensive study of program requirements in these institutions would be very helpful to any who wishes to challenge the position that program time cannot be reduced. Another approach would be to group respondents by length of program and then compare the responses of the longest one-fourth with those of the shortest one-fourth. It is quite possible that the individuals in these two groups had quite different objectives, that their activities in the period between completion of course work and completion of the dissertation were quite different, and that they differed as to the availability of financial resources.

The critical nature of financial factors has been emphasized throughout this report. Two approaches to the problem are suggested here. The first and most obvious is to increase the financial support to students. A second, and perhaps equally difficult approach, would be to select students either who are not likely to have financial difficulties or who are able to tolerate financial hardships. There is evidence in this study which indicates that financial difficulties are, to a large degree, a matter of perception. That is, when two students live under similar financial conditions, one may perceive the conditions as those of extreme deprivation while the other does not. It is possible that additional information concerning the perception of financial obstacles would be made available if one could contrast responses of those who did and those who did not attribute critical and near-critical periods to financial difficulties.

The principal occupational sources of the doctoral candidates were the public schools, colleges, and, to a limited extent, certain service organizations. This is not to say, however, that the activities of all candidates were alike in each of these settings. If the individual entered the program from a college, he was probably a teacher. If he entered the program from the public school, he was most likely an administrator, a curriculum specialist, a guidance counselor, or some other kind of specialist. College teaching and school specialties are the evidences of success previously mentioned as "personal requirements" which seem to accompany motivation to study for the doctorate. To enhance our understanding of the manner in which these observations bear upon recruiting, it would be useful to divide the population on the basis of position held just prior to receipt of the degree. Differences between college teachers, elementary and secondary school teachers, and other school specialists could then more readily be observed.

The principal institutional sources of students also continue to be a source of interest. Only 11.1 percent of this group received the baccalaureate degree from a teachers college. Only 20 percent received master's degrees outside the 91 institutions on which this study is based. Students from some institutions must be more highly motivated toward continued graduate study than are those from other institutions. No attempt has been made herein to determine what these motivations may have been and how they influenced students.

Recruiting and placement may also be linked in that students from certain occupational and academic sources are more or less likely to accept positions which differ as to kind and/or institutional setting. It may be hypothesized that these patterns are not susceptible to institutional redirection or that the patterns are so enmeshed in institutional policy that they defy differentiation.

Perhaps the most important observation which comes from this study is to be deduced from the institutional comparisons which have been made. Substantial differences were observed whenever institutions were ranked. In statistical terminology, variance between institutions far exceeded variance within institutions. Institutions differed markedly on factors such as age of students, length of program, proportion of students having critical periods, number of assistantships or fellowships available, amount of student-student or student-faculty interaction, and positive quality of attitudes. The implication of all this is control, that is, the amount of control which the institution wields over factors affecting the pursuit of the degree. In other words, institutions cannot legitimately claim that a specified condition is the result of the times or factors over which there is no control, because in other institutions these factors are being controlled. Unfortunately, these data reveal only the fact of control; they do not indicate how institutions control. Nor can confidences be broken to identify where controls exist on certain variables. However, if administrators believe it profitable, they might compare local summaries, using for resource persons those in the group who appear to have best resolved a single issue, for example, length of program. At this time, this kind of approach seems most appropriate.

The elements listed above seem to be the most critical and most significant of those which affect pursuit of the doctoral degree in education as revealed by the data collected herein. However, there are three other areas which seem profitable for investigation. Each of these three fell outside the immediate scope of this portion of the total project.

The first has to do with trends. This survey may help to identify conditions as they existed in the field of education within a specified two-year period, but the direction of movement of these conditions is completely unknown. Did the individuals who received their degrees from 1954-56, for example, have more or fewer critical periods? Did they require a greater or lesser length of time to complete their programs? These and many other similar questions cannot be answered now. If knowledge of trends is important, it might be well to think in terms of continuing studies such as this, on a smaller scale. This could be done in much the same manner as that in which the National Academy of Sciences collects its data on persons who completed the doctoral degree in all fields, a method requiring doctoral candidates to fill out questionnaires as they finish their programs. The questionnaire might consist of items relative to the six critical factors identified in this study.

The second area which needs investigation has to do with the causes which underlie the failure of a large group of candidates to complete programs after having successfully dealt with many of the hurdles. Why do individuals who have completed all course work, qualifying examinations, and languages never complete the final step--the dissertation? Are the causes a function of conditions or of the individual? Could employing institutions reduce this problem by allowing blocks of time to work on the dissertation, or should the parent institution pass regulations which would require completion of the dissertation in residence? These questions, of course, have a bearing upon successful, as well as upon unsuccessful, candidates.

And finally, it would be remiss not to compare the perceptions of graduates, as reported herein, with the perceptions of institutional officials, as reported in the complementary study conducted at the University of Denver. It is anticipated that the two reports will show varying degrees of agreement and difference. Certainly it would be useful for an institution to know whether the aims and purposes of policies and programs are being realized in the attitudes and perceptions of graduates. As mentioned earlier, this particular task has been considered, and it may become the final report, or third volume, of the total study.

APPENDIXES

APPENDIX A

ADDITIONAL DATA CONCERNING RESPONDENTS

TABLE A.--NUMBER OF CHILDREN OF RESPONDENTS, BY MAJOR FIELDS

Major field	Number of children						
	One	Two	Three	Four or more	Single	No response	Number in field
1	2	3	4	5	6	7	8
Special education	8.0%	26.0%	10.0%	8.0%	20.0%	28.0%	50
Administration	16.7	33.5	17.1	11.7	6.8	14.2	621
Curriculum	17.3	22.6	12.2	7.0	6.1	34.8	115
Physical education.	15.9	19.7	12.1	8.4	7.5	36.4	107
Practical arts	15.6	29.7	10.9	8.6	7.1	28.1	128
Social foundations	12.7	25.4	17.5	6.3	7.9	30.2	63
Subject areas	18.4	25.6	10.4	10.3	8.5	26.8	164
Mathematics or science	9.1	36.3	10.4	9.1	10.4	24.7	77
Educational psychology	22.8	20.8	13.5	8.7	10.7	23.5	149
Secondary education	20.2	24.2	20.2	9.0	8.1	18.3	99
Elementary education	14.8	23.8	16.9	3.8	10.7	30.0	130
Higher education.	15.5	22.5	11.4	12.6	5.6	32.4	71
Guidance.	13.3	28.9	13.3	9.8	7.5	27.2	173
Clinical psychology	24.5	26.5	9.2	1.0	11.2	27.6	98
Student personnel administration	18.2	27.3	11.4	2.3	6.8	34.0	44

TABLE B.--SPOUSES' EDUCATION, BY MAJOR FIELDS

Major field	Elementary	High school		College		Degree			No response or spouse	Number in field
		Unfinished	Graduate	2 yrs. or less	More than 2 yrs.	B.A., B.S., etc.	M.A., M.S., etc.	Ed.D. or Ph.D.		
1	2	3	4	5	6	7	8	9	10	11
Special education	...	12.0%	2.0%	8.0%	14.0%	28.0%	16.0%	2.0%	18.0%	50
Administration	.2%	8.9	5.0	14.5	6.9	41.4	13.2	.6	9.3	621
Curriculum	...	3.5	5.2	8.7	5.2	30.4	10.4	3.5	33.0	115
Physical education	...	6.5	4.7	11.2	3.7	31.8	12.1	.9	29.0	107
Practical arts	...	6.3	9.4	8.6	3.9	29.7	15.6	1.6	25.0	128
Social foundations	...	3.2	1.6	9.5	3.2	36.5	19.0	1.6	25.4	63
Subject areas	...	7.9	3.7	8.5	6.7	30.5	17.1	1.2	24.4	164
Mathematics or science	...	6.5	6.5	9.1	5.2	36.4	13.0	2.6	20.8	77
Educational psychology	.7	6.0	1.3	9.4	10.1	31.5	18.8	1.3	20.8	149
Secondary education	...	14.1	6.1	11.1	11.1	25.3	12.1	3.0	17.2	99
Elementary education	.8	3.8	3.8	10.8	7.7	30.0	16.2	2.3	24.6	130
Higher education	1.4	5.6	5.6	8.5	5.6	29.6	12.7	1.4	29.6	71
Guidance	...	7.5	5.2	13.9	4.0	26.6	18.5	3.5	20.8	173
Clinical psychology	...	6.1	7.1	10.2	1.0	25.5	23.5	9.2	17.3	98
Student personnel administration	...	2.3	2.3	4.5	11.4	29.5	20.5	2.3	27.3	44

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TABLE C.--ORIGINAL DISTRIBUTION OF RESPONDENTS, BY MAJOR FIELDS

Field	Number
Administration, college or higher education	30
Administration, elementary	23
Administration, general, school or educational	581
Administration, health, physical education, or recreation	14
Administration, junior college	3
Administration, religious education	1
Administration, secondary	17
Administration, special education	6
Administration, student personnel	144
Administration and educational service	5
Administration and supervision	52
Adult education	20
Agricultural education	8
Anthropology, teaching of	2
Art education	13
Audio-visual education	13
Business education	46
Camping	2
Child development, child psychology and child welfare	15
Clinical psychology	62
Conservation	2
Counseling	4
Counseling and guidance	52
Counseling psychology	32
Counseling and educational psychology	2
College teaching, general	1
Curriculum, elementary	7
Curriculum, general	41
Curriculum and supervision	24
Curriculum and teaching	43
Dramatic arts education	5
Education, general	74
Educational psychology	149
Educational psychology and guidance	26
Educational psychology and research or measurement	20
Education for marriage and family life	10
Elementary education, elementary teaching or instruction	130
Elementary education--supervision	5
Engineering education	1
English education, English and teaching of English	20
Fine arts education	10
Foreign language education	2
Guidance, general	121
Guidance and special education	4
Health education--health, physical education, recreation, safety	18
Higher education, general	41
History of education	13
History and philosophy of education	21
Home economics education	24
Human relations education	13
Human development	15
Industrial education	33
Junior college	3
Language or communication arts	7
Mathematics or teaching of mathematics	26
Music and music education	63
Personnel psychology	4
Philosophy of education, philosophy and theory of education	29
Physical education	70
Psychology	53
Reading (including psychology of)	10
Religious education	17
Safety education	3
School psychology	3
Science education	51
Secondary education	99
Secondary and higher education	5
Social studies, teaching of	34
Special education	27
Speech, teaching of (also speech education)	8
Speech pathology	4
Statistics and measurement, or evaluation	19
Supervision	9
Teacher education (or training)	48
Vocational education	11
Vocational television	1
Sociology or social work	8
Mental health	4
Nursing education	4
Nutrition	2

TABLE D.--MOST RECENT PREDOCTORAL POSITION, BY OCCUPATIONAL GROUP

Occupational group	Number	Percent
1	2	3
Professional, semiprofessional, or managerial	303	11.9%
Clerical and sales	12	0.5
Service	4	0.2
Agriculture	2	0.1
Skilled labor	1	0.0
Semiskilled or unskilled	3	0.1
Education, teacher	1149	45.2
Education, nonteacher	1017	40.0
Other	1	0.0
No response or no job	50	2.0
Total	2542	100.0%

TABLE E.--MOST RECENT PREDOCTORAL POSITION, BY TYPE OF EMPLOYING ORGANIZATION

Organization	Number	Percent
1	2	3
Elementary or high school	980	38.6%
College or university	1164	45.8
Service organization	278	10.9
Business or industry	66	2.6
No response or no job	53	2.1
Error (invalid code, Category 7)	1	0.0
Total	2542	100.0%

TABLE F.--MOST RECENT PREDOCTORAL POSITION, BY NUMBER OF YEARS HELD

Years held	Number	Percent
1	2	3
One	526	20.7%
Two	464	18.3
Three	292	11.5
Four	215	8.5
Five	188	7.4
Six	131	5.2
Seven	110	4.3
Eight	93	3.7
Nine or more	462	18.2
No response or no job	61	2.2
Total	2542	100.0%

TABLE G.--MOST RECENT PREDOCTORAL POSITION, BY DEGREE OF INFLUENCE ON DOCTORAL STUDY

Degree of influence	Number	Percent
1	2	3
Highly influential, of decisive importance	1056	41.5%
Of considerable influence	515	20.3
Moderately influential	303	11.9
Of little influence	162	6.4
Of no influence	255	10.0
No response or no job	251	9.9
Total	2542	100.0%

TABLE H.--SECOND MOST RECENT PREDOCTORAL POSITION, BY OCCUPATIONAL GROUP

Occupational group	Number	Percent
1	2	3
Professional, semiprofessional, or managerial	321	12.6%
Clerical and sales	28	1.1
Service	6	0.2
Agriculture	1	0.0
Skilled labor	2	0.1
Semiskilled or unskilled	8	0.3
Education, teacher	1099	43.2
Education, nonteacher	760	29.9
Other	0	0.0
No response or no job	317	12.6
Total	2542	100.0%

TABLE I.--SECOND MOST RECENT PREDOCTORAL POSITION, BY TYPE OF EMPLOYING ORGANIZATION

Organization	Number	Percent
1	2	3
Elementary or high school	1127	44.3%
College or university	718	28.2
Service organization	272	10.7
Business or industry	106	4.2
No response or no job	319	12.6
Total	2542	100.0%

TABLE J.--SECOND MOST RECENT PREDOCTORAL POSITION, BY NUMBER OF YEARS HELD

Years held	Number	Percent
1	2	3
One	638	25.1%
Two	482	19.0
Three	329	12.9
Four	231	9.1
Five	151	5.9
Six	105	4.1
Seven	68	2.7
Eight	47	1.8
Nine or more	159	6.3
No response or no job	332	13.1
Total	2542	100.0%

TABLE K.--SECOND MOST RECENT PREDOCTORAL POSITION, BY DEGREE OF INFLUENCE ON DOCTORAL STUDY

Degree of influence	Number	Percent
1	2	3
Highly influential, of decisive importance	509	20.0%
Of considerable influence	527	20.7
Moderately influential	436	17.2
Of little influence	283	11.1
Of no influence	319	12.5
No response or no job	467	18.5
Error (invalid code, Category 6)	1	0.0
Total	2542	100.0%

TABLE L.--THIRD MOST RECENT PREDOCTORAL POSITION, BY OCCUPATIONAL GROUP

Occupational group	Number	Percent
1	2	3
Professional, semiprofessional, or managerial	308	12.1%
Clerical and sales	55	2.2
Service	9	0.4
Agriculture	1	0.0
Skilled labor	8	0.3
Semiskilled or unskilled	10	0.4
Education, teacher	991	39.0
Education, nonteacher	471	18.5
Other	0	0.0
No response or no job	689	27.1
Total	2542	100.0%

TABLE M.--THIRD MOST RECENT PREDOCTORAL POSITION, BY TYPE OF EMPLOYING ORGANIZATION

Organization	Number	Percent
1	2	3
Elementary or high school	1015	39.9%
College or university	431	17.0
Service organization	238	9.4
Business or industry	166	6.5
No response or no job	691	27.2
Error (invalid code, Category 5)	1	0.0
Total	2542	100.0%

TABLE N.--THIRD MOST RECENT PREDOCTORAL POSITION, BY NUMBER OF YEARS HELD

Years held	Number	Percent
1	2	3
One	610	24.0%
Two	447	17.6
Three	262	10.3
Four	170	6.7
Five	107	4.2
Six	64	2.5
Seven	62	2.4
Eight	22	0.9
Nine or more	97	3.8
No response or no job	701	27.6
Total	2542	100.0%

TABLE O.--THIRD MOST RECENT PREDOCTORAL POSITION, BY DEGREE OF INFLUENCE ON DOCTORAL STUDY

Degree of influence	Number	Percent
1	2	3
Highly influential, of decisive importance	246	9.7%
Of considerable influence	335	13.2
Moderately influential	376	14.8
Of little influence	325	12.8
Of no influence	424	16.7
No response or no job	836	32.8
Total	2542	100.0%

TABLE P.--FOURTH MOST RECENT PREDOCTORAL POSITION, BY OCCUPATIONAL GROUP

Occupational group	Number	Percent
1	2	3
Professional, semiprofessional, or managerial	224	8.8%
Clerical and sales	43	1.7
Service	9	0.4
Agriculture	3	0.1
Skilled labor	11	0.4
Semiskilled or unskilled	21	0.8
Education, teacher	725	28.5
Education, nonteacher	245	9.6
Other	0	0.0
No response or no job	1261	49.7
Total	2542	100.0%

TABLE Q.--FOURTH MOST RECENT PREDOCTORAL POSITION, BY TYPE OF EMPLOYING ORGANIZATION

Organization	Number	Percent
1	2	3
Elementary or high school	737	29.0%
College or university	225	8.9
Service organization	165	6.5
Business or industry	154	6.1
No response or no job	1261	49.6
Total	2542	100.0%

TABLE R.--FOURTH MOST RECENT PREDOCTORAL POSITION, BY NUMBER OF YEARS HELD

Years held	Number	Percent
1	2	3
One	489	19.2%
Two	286	11.3
Three	185	7.3
Four	107	4.2
Five	69	2.7
Six	39	1.5
Seven	23	0.9
Eight	17	0.7
Nine or more	59	2.3
No response or no job	1268	49.9
Total	2542	100.0%

TABLE S.--FOURTH MOST RECENT PREDOCTORAL POSITION, BY DEGREE OF INFLUENCE ON DOCTORAL STUDY

Degree of influence	Number	Percent
1	2	3
Highly influential, of decisive importance	105	4.1%
Of considerable influence	172	6.8
Moderately influential	210	8.3
Of little influence	241	9.5
Of no influence	433	17.0
No response or no job	1381	54.3
Total	2542	100.0%

TABLE T.--TYPE OF "SECOND MOST RECENT" PREDOCTORAL POSITION, BY MAJOR FIELDS

Major field	Professional or managerial	Education, teacher	Education, nonteacher	All other	No response or no job	Number
1	2	3	4	5	6	7
Special education	20.0%	48.0%	16.0%	...	16.0%	50
Administration	6.8	32.2	50.6	2.1%	8.3	621
Curriculum	5.2	51.3	33.9	...	9.6	115
Physical education	15.9	62.6	10.3	2.8	8.4	107
Practical arts	10.9	59.4	16.4	1.6	11.7	128
Social foundations	17.5	46.0	14.3	1.6	20.6	63
Subject areas	7.3	63.4	14.0	1.2	14.1	164
Mathematics or science	3.9	62.3	15.6	1.3	16.9	77
Educational psychology	14.1	39.6	16.8	5.4	24.1	149
Secondary education	4.0	55.6	29.3	...	11.1	99
Elementary education	2.3	47.7	33.8	0.8	15.4	130
Higher education	9.9	40.8	28.2	1.4	19.7	71
Guidance	21.4	34.1	33.5	1.8	9.2	173
Clinical psychology	49.0	16.3	17.3	2.0	15.4	98
Student personnel administration	11.4	38.6	40.9	...	9.1	44

TABLE U.--TYPE OF ORGANIZATION WHICH EMPLOYED RESPONDENTS IN "SECOND MOST RECENT" PREDOCTORAL POSITIONS, BY MAJOR FIELDS

Major field	Public school	College	Service organization	Business or industry	No response	Number
1	2	3	4	5	6	7
Special education	46.0%	20.0%	14.0%	4.0%	16.0%	50
Administration	63.3	17.7	6.8	3.7	8.5	621
Curriculum	54.8	28.7	3.5	4.3	8.7	115
Physical education	35.5	37.4	15.9	2.8	8.4	107
Practical arts	34.4	38.3	7.8	7.8	11.7	128
Social foundations	36.5	22.2	14.3	6.4	20.6	63
Subject areas	32.9	42.7	6.1	4.3	14.0	164
Mathematics or science	42.9	35.1	2.6	2.6	16.8	77
Educational psychology	30.2	27.5	11.4	6.7	24.2	149
Secondary education	66.7	18.2	3.0	1.0	11.1	99
Elementary education	59.2	20.8	3.1	1.5	15.4	130
Higher education	14.1	49.3	12.7	4.2	19.7	71
Guidance	38.2	32.9	17.3	2.3	9.3	173
Clinical psychology	14.3	25.5	36.7	7.1	16.4	98
Student personnel administration	29.5	45.5	15.9	...	9.1	44

TABLE V.--REPUTATION OF DEPARTMENT AS A FACTOR IN THE CHOICE OF DOCTORAL INSTITUTIONS, BY MAJOR FIELDS

Major field	A significant factor	The most significant factor	No response	Number
1	2	3	4	5
Special education	4.0%	2.0%	94.0%	50
Administration.	2.0	2.3	95.7	621
Curriculum.	3.5	5.2	91.3	115
Physical education.	1.9	2.8	95.3	107
Practical arts	2.3	2.4	95.3	128
Social foundations	3.2	...	96.8	63
Subject areas	4.9	1.2	93.9	164
Mathematics or science.	5.2	1.3	93.5	77
Educational psychology.	2.7	2.0	95.3	149
Secondary education	2.0	1.0	97.0	99
Elementary education	1.5	2.3	96.2	130
Higher education.	1.4	...	98.6	71
Guidance.	5.2	2.9	91.9	173
Clinical psychology	3.1	3.1	93.8	98
Student personnel administration	6.8	...	93.2	44

TABLE W.--TYPE OF POSITIONS HELD DURING THE ACADEMIC YEAR 1957-58

Type of position	Number	Percent
1	2	3
Teaching	887	34.9%
Administration.	480	18.9
Personnel services	149	5.9
Instructional services	187	7.4
Other	59	2.3
No response	780	30.6
Total.	2542	100.0%

TABLE X.--ORGANIZATIONS EMPLOYING PH.D.'S AND ED.D.'S DURING THE ACADEMIC YEAR 1957-58

Type of Position	Ph.D.		Ed.D.		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Public school district	107	12.4%	418	24.9%	525	20.7%
College or university	331	38.3	645	38.5	976	38.4
Service organization.	91	10.5	94	5.6	185	7.3
Business or industry.	21	2.4	10	0.6	31	1.2
Other	16	1.9	21	1.2	37	1.4
No response	299	34.6	489	29.2	788	31.0
Total.	865	100.0%	1677	100.0%	2542	100.0%

TABLE Y.--INCIDENCE OF INVOLVEMENT IN TEACHER EDUCATION DURING THE ACADEMIC YEAR 1957-58

Response	Number	Percent
1	2	3
Involved in teacher education.	1135	44.6%
Not involved in teacher education.	505	19.9
Involved part time in teacher education	16	0.6
No response	886	34.9
Total.	2542	100.0%

APPENDIX B

INSTITUTIONS GRANTING BACHELOR'S AND MASTER'S DEGREES TO THE RESPONDENTS

TABLE A.--INSTITUTIONS GRANTING BACHELOR'S DEGREES TO THE RESPONDENTS

Institution	Number
Alabama	
Alabama A & M College	3
Alabama College	3
Alabama State College	2
Auburn University	7
Birmingham-Southern College	4
Florence State College	1
Howard College	1
Huntingdon College	6
Jacksonville State College	1
Judson College	1
Talladega College	2
Troy State College	2
Tuskegee Institute	2
University of Alabama	4
Arizona	
Arizona State College (Flagstaff)	2
Arizona State University	3
University of Arizona	2
Arkansas	
Agricultural, Mechanical and Normal College	1
Arkansas A & M College	1
Arkansas College	1
Arkansas State College	4
Arkansas State Teachers College	4
College of the Ozarks	2
Harding College	2
Henderson State Teachers College	3
Hendrix College	1
John Brown University	1
University of Arkansas	6
California	
Chapman College	1
Chico State College	6
Claremont Men's College	1
College of the Pacific	3
George Pepperdine College	2
Humboldt State College	1
Long Beach City College	1
Los Angeles State College of Applied Arts and Sciences	1
Mills College	1
Occidental College	7
St. Mary's College of California	1
St. Patrick's Seminary	1
San Diego State College	3
San Francisco State College	12
San Jose State College	5
Stanford University	13
University of California (Berkeley)	29
University of California (Davis)	3
University of California (Los Angeles)	23
University of California (Santa Barbara)	7
University of Redlands	7
University of Southern California	18
Upland College	2
Whittier College	3
Colorado	
Adams State College of Colorado	3
Colorado State University	1
Colorado State College of Education	16
University of Colorado	7
University of Denver	13
Western State College of Colorado	1
Connecticut	
Albertus Magnus College	1
Danbury State College	2
Central Connecticut State College	10
Southern Connecticut State College	5
Trinity College	2
University of Bridgeport	1
University of Connecticut	5
Wesleyan University	4
Willimantic State College	1
Yale University	6
Delaware	
University of Delaware	1
District of Columbia	
Catholic University of America	2
District of Columbia Teachers College	1
George Washington University	2
Washington Missionary College	1
Florida	
Bethune-Cookman College	1
Florida A & M University	2
Florida State University	4
Rollins College	1
Stetson University	1
University of Florida	6
University of Miami	5
Georgia	
Agnes Scott College	1
Albany State College	1
Emory University	1
Georgia Southern College	5
Georgia State College of Business Administration	1
Georgia State College for Women	2
Mercer University	2
Morris Brown College	1
University of Georgia	8
Wesleyan College	1
Hawaii	
University of Hawaii	3
Idaho	
University of Idaho	4
Illinois	
Augustana College	2
Aurora College	1

TABLE A.--INSTITUTIONS GRANTING BACHELOR'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
Illinois (Continued)	
Bradley University	3
Carthage College	3
Chicago Teachers College	8
Columbia College	1
Concordia Teachers College	1
De Paul University	4
Eastern Illinois University	4
Elmhurst College	1
Garrett Biblical Institute	1
George Williams College	2
Illinois College	1
Illinois Institute of Technology	2
Illinois State Normal University	9
Illinois Wesleyan University	3
Lewis College of Science and Technology	1
Loyola University	2
MacMurray College	1
Millikin University	2
National College of Education	1
North Central College	1
Northern Baptist Theological Seminary	1
Northern Illinois University	5
Northwestern University	9
Quincy College	2
Roosevelt University	3
St. Xavier College	1
School of the Art Institute of Chicago	1
Southern Illinois University	10
University of Chicago	17
University of Illinois	28
Western Illinois University	1
Indiana	
Anderson College and Theological Seminary	2
Ball State Teachers College	9
DePauw University	4
Goshen College	4
Huntington College	2
Indiana Central College	1
Indiana State Teachers College	13
Indiana University	16
Manchester College	5
Marion College	3
Oakland City College	1
Purdue University	4
University of Notre Dame	6
Wabash College	3
Iowa	
Central College	3
Cornell College	5
Drake University	5
Grinnell College	3
Iowa State University of Science and Technology	5
Iowa State Teachers College	18
Loras College	2
Iowa (Continued)	
Luther College	2
Morningside College	1
Parsons College	1
St. Ambrose College	1
Simpson College	1
State University of Iowa	15
University of Dubuque	3
Wartburg Theological Seminary	1
Westmar College	1
Kansas	
Bethany College	1
College of Emporia	3
Friends University	2
Kansas State College of Pittsburg	12
Kansas State Teachers College (Emporia)	6
Kansas State University of Agriculture and Applied Science	4
McPherson College	4
Marymount College	1
Ottawa University	1
Southwestern College	3
Sterling College	1
University of Kansas	12
University of Wichita	5
Washburn University of Topeka	3
Kentucky	
Asbury College	1
Berea College	1
Eastern Kentucky State College	4
Morehead State College	1
Murray State College	4
Transylvania College	2
Union College	1
University of Kentucky	4
University of Louisville	3
Villa Madonna College	1
Western Kentucky State College	3
Louisiana	
Leland College	2
Louisiana College	1
Louisiana Polytechnic Institute	5
Louisiana State University and A & M College	6
Northwestern State College of Louisiana	1
Southeastern Louisiana College	1
Southern University and A & M College	1
Southwestern Louisiana Institute	1
Tulane University of Louisiana	3
Xavier University of Louisiana	1
Maine	
Bates College	6
Bowdoin College	2
Colby College	4
University of Maine	2

TABLE A.--INSTITUTIONS GRANTING BACHELOR'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
Maryland	
Coppin State Teachers College	1
Goucher College	1
Johns Hopkins University	4
Maryland State Teachers College (Towson)	2
Morgan State College	3
St. Mary's Seminary and University	1
United States Naval Academy	2
University of Maryland	6
Washington College	1
Western Maryland College	2
Massachusetts	
Boston College	3
Boston University	25
Clark University	1
Eastern Nazarene College	3
Emerson College	2
Harvard University	11
Massachusetts College of Art	1
Massachusetts Institute of Technology	1
Mount Holyoke College	2
New England Conservatory of Music	1
Radcliffe College	2
Simmons College	1
Smith College	3
Springfield College	10
State Teachers College (Bridgewater)	8
State Teachers College (Fitchburg)	3
State Teachers College (Lowell)	2
State Teachers College (Salem)	4
State Teachers College (Worcester)	1
Tufts University	7
University of Massachusetts	2
Wheelock College	1
Williams College	1
Michigan	
Adrian College	1
Albion College	2
Alma College	1
Calvin College	2
Central Michigan University	6
Eastern Michigan University	12
Emmanuel Missionary College	1
Ferris Institute	2
Grand Rapids Baptist Theological Seminary and Bible Institute	1
Hillsdale College	3
Hope College	2
Kalamazoo College	2
Madonna College	1
Marygrove College	1
Michigan College of Mining and Technology	1
Michigan State University	17
Northern Michigan College	5
Olivet College	2
University of Detroit	1
University of Michigan	18
Wayne State University	17
Western Michigan University	7
Minnesota	
Augsburg College and Theological Seminary	2
Bemidji State College	1
Carleton College	3
College of St. Catherine	2
Concordia College (Moorhead)	3
Gustavus Adolphus College	1
Macalester College	2
MacPhail College of Music	2
Mankato State College	2
St. Cloud State College	5
St. John's University	1
St. Mary's College	1
St. Olaf College	4
University of Minnesota	32
Mississippi	
Delta State College	2
Jackson State College	1
Millsaps College	2
Mississippi College	3
Mississippi Industrial College	1
Mississippi Southern College	5
Mississippi State College	2
Mississippi State College for Women	2
Missouri	
Central Missouri State College	4
Concordia Seminary	1
Conservatory of Music of Kansas City	1
Culver-Stockton College	2
Drury College	1
Harris Teachers College	1
Kendrick Seminary	1
Lincoln University	3
Missouri Valley College	2
Northeast Missouri State Teachers College	9
Saint Louis University	2
Southeast Missouri State College	5
Southwest Missouri State College	10
Tarkio College	2
University of Kansas City	4
University of Missouri	9
Washington University	6
Westminister College	1
William Jewell College	1
Montana	
Montana State College	2
Montana State University	6
Nebraska	
Creighton University	2
Doane College	1
Hastings College	4
Midland College	1
Municipal University of Omaha	9
Nebraska State Teachers College (Kearney)	5
Nebraska State Teachers College (Peru)	6
Nebraska State Teachers College (Wayne)	5

TABLE A.--INSTITUTIONS GRANTING BACHELOR'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
Nebraska (Continued)	
Nebraska Wesleyan University	3
University of Nebraska	20
Nevada	
University of Nevada	1
New Hampshire	
Dartmouth College	6
Plymouth Teachers College	1
University of New Hampshire	9
New Jersey	
College of St. Elizabeth	2
Drew University	1
Glassboro State College	3
Jersey City State College	1
Montclair State College	11
Newark State College	5
Trenton State College	14
Princeton Theological Seminary	1
Rutgers University, The State University of New Jersey	12
St. Peter's College	1
Seton Hall University	3
Upsala College	2
New Mexico	
New Mexico State University of Agriculture, Engineering and Science.	1
New Mexico Highlands University	1
University of New Mexico	3
New York	
Adelphi College	2
Alfred University	2
Brooklyn College	27
Canisius College	4
The City College of the City of New York	61
Colgate University	1
Columbia University	41
Cornell University	10
Elmira College	1
Fordham University	8
Hamilton College	3
Hobart and William Smith Colleges	3
Hofstra College	1
Houghton College	3
Hunter College of the City of New York	7
Ithaca College	4
Juilliard School of Music	1
Keuka College	2
King's College	1
Ladycliff College	1
Long Island University	10
Manhattan College	2
Marymount College	1
New School for Social Research	1
New York University	58
Nyack Missionary College	1
New York (Continued)	
Queens College of the City of New York	4
Russell Sage College	3
St. Bernadine of Siena College	1
St. Bonaventure University	3
St. John's University	6
St. Joseph's Seminary and College	1
St. Lawrence University	3
State University of New York	
College of Education at Albany	12
College of Education at Buffalo	9
College of Education at Brockport	4
College of Education at Cortland	4
College of Education at Fredonia	6
College of Education at Geneseo	1
College of Education at New Paltz	1
College of Education at Oneonta	2
College of Education at Oswego	3
College of Education at Potsdam	2
Syracuse University	23
Union College and University	3
Union Theological Seminary	1
University of Buffalo	6
University of Rochester	9
Vassar College	1
Wagner Lutheran College	3
Wells College	1
North Carolina	
Appalachian State Teachers College	6
Barber-Scotia College	1
Catawba College	3
Davidson College	1
Duke University	8
East Carolina College	4
Fayetteville State Teachers College	1
Flora Macdonald College	1
Guilford College	1
High Point College	1
St. Augustine's College	1
University of North Carolina	11
Wake Forest College	8
Western Carolina College	2
Woman's College of the University of North Carolina	2
North Dakota	
Jamestown College	1
North Dakota Agricultural College	6
State Teachers College (Dickinson)	3
State Teachers College (Minot)	1
State Teachers College (Valley City)	1
University of North Dakota	2
Ohio	
Antioch College	3
Ashland College	2
Baldwin-Wallace College	2
Bluffton College	1
Bowling Green State University	3

TABLE A.--INSTITUTIONS GRANTING BACHELOR'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
Ohio (Continued)	
Capital University	2
College of Wooster	7
Denison University	3
Findlay College	1
Kent State University	3
Marietta College	1
Miami University	2
Mount Union College	1
Muskingum College	2
Oberlin College	2
Ohio State University	32
Ohio University	13
Ohio Wesleyan University	2
Otterbein College	1
Our Lady of Cincinnati College	1
University of Akron	1
University of Cincinnati	1
University of Dayton	1
University of Toledo	1
Western Reserve University	4
Wilberforce University	2
Wilmington College	1
Wittenberg College	2
Xavier University	1
Youngstown University	1
Oklahoma	
Bethany Nazarene College	2
Central State College	5
East Central State College	4
Northeastern State College	4
Northwestern State College	4
Oklahoma State University	15
Oklahoma City University	1
Southeastern State College	6
Southwestern State College	9
University of Oklahoma	12
Oregon	
Eastern Oregon College	2
Linfield College	1
Oregon State College	5
Pacific Bible College	1
Southern Oregon College	1
University of Oregon	11
University of Portland	2
Willamette University	4
Pennsylvania	
Allegheny College	1
Bryn Mawr College	1
Bucknell University	3
Carnegie Institute of Technology	2
Dickinson College	2
Drexel Institute of Technology	1
Duquesne University	9
Eastern Baptist College	1
Elizabethtown College	1
Franklin and Marshall College	3
Pennsylvania (Continued)	
Geneva College	1
Grove City College	3
Juniata College	6
Lafayette College	3
La Salle College	1
Lebanon Valley College	3
Lehigh University	1
Lincoln University	1
Marywood College	1
Pennsylvania State University	17
St. Joseph's College	1
St. Vincent College	1
State Teachers College (Bloomsburg)	1
State Teachers College (California)	5
State Teachers College (Clarion)	1
State Teachers College (East Stroudsburg)	1
State Teachers College (Edinboro)	2
State Teachers College (Indiana)	5
State Teachers College (Kutztown)	5
State Teachers College (Lock Haven)	3
State Teachers College (Mansfield)	5
State Teachers College (Millersville)	2
State Teachers College (Shippensburg)	7
State Teachers College (West Chester)	5
Susquehanna University	1
Swarthmore College	1
Temple University	15
University of Pennsylvania	5
University of Pittsburgh	21
University of Scranton	3
Ursinus College	2
Villa Maria College	1
Villanova University	2
Washington and Jefferson College	3
Waynesburg College	2
Western Theological Seminary	1
Westminster College	2
Rhode Island	
Brown University	3
University of Rhode Island	2
South Carolina	
Allen University	1
Citadel, The Military College of South Carolina	1
Clemson Agricultural College	1
Erskine College	1
Furman University	1
Newberry College	2
South Carolina State College	2
University of South Carolina	2
Winthrop College	1
Wofford College	2
South Dakota	
Dakota Wesleyan University	4
Huron College	2
Northern State Teachers College	6

TABLE A.--INSTITUTIONS GRANTING BACHELOR'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
South Dakota (Continued)	
University of South Dakota	2
Yankton College	1
Tennessee	
Austin Peay State College	2
Carson-Newman College	1
East Tennessee State College	2
Fisk University	2
George Peabody College for Teachers	9
Maryville College	1
Memphis State University	1
Middle Tennessee State College	2
Milligan College	3
Southwestern at Memphis	1
Tennessee Agricultural and Industrial State University	3
Tennessee Polytechnic Institute	1
Union University	1
University of Chattanooga	4
University of Tennessee	13
Vanderbilt University	4
Texas	
Abilene Christian College	4
Agricultural and Mechanical College of Texas	5
Austin College	1
Baylor University	9
Butler College	1
East Texas Baptist College	1
East Texas State Teachers College	1
Hardin-Simmons University	1
Howard Payne College	1
Mary Hardin-Baylor College	1
McMurry College	1
North Texas State College	19
Prairie View Agricultural and Mechanical College	2
Rice Institute	2
Sam Houston State Teachers College	3
Southern Methodist University	3
Southwest Texas State Teachers College	5
Southwestern University	2
Stephen F. Austin State College	1
Texas Christian University	4
Texas College of Arts and Industries	2
Texas Technological College	5
Texas Wesleyan College	1
Texas Woman's University	2
Trinity University	1
University of Houston	4
University of Texas	16
West Texas State College	3
Utah	
Brigham Young University	12
University of Utah	16
Utah State University of Agriculture and Applied Science	9
Vermont	
Middlebury College	2
University of Vermont and State Agricultural College	3
Virginia	
Bridgewater College	2
College of William and Mary	5
Emory and Henry College	1
Lynchburg College	2
Randolph-Macon College	1
University of Richmond	3
University of Virginia	1
Virginia Polytechnic Institute	2
Virginia State College	5
Washington	
Central Washington College of Education	5
Eastern Washington College of Education	1
Gonzaga University	2
Seattle Pacific College	1
State College of Washington	8
University of Washington	11
Western Washington College of Education	3
Whitman College	2
West Virginia	
Bethany College	2
Glenville State College	2
Marshall College	4
Morris Harvey College	1
Shepherd State College	3
West Virginia Institute of Technology	1
West Virginia State College	1
West Virginia University	7
Wisconsin	
Beloit College	2
Carroll College	1
Lawrence College	1
Marquette University	1
Northland College	1
St. Norbert College	1
Stout State College	4
University of Wisconsin	26
Viterbo College	1
Wisconsin Institute of Technology	1
Wisconsin State College (Eau Claire)	6
Wisconsin State College (La Crosse)	6
Wisconsin State College (Oshkosh)	1
Wisconsin State College (Stevens Point)	7
Wisconsin State College (Superior)	1
Wisconsin State College (Whitewater)	6
Wyoming	
University of Wyoming	3
Puerto Rico	
University of Puerto Rico	1
Foreign	61
No Response	44
Total	2542

TABLE B.--INSTITUTIONS GRANTING MASTER'S DEGREES TO THE RESPONDENTS

Institution	Number
Alabama	
Alabama State College	1
Auburn University	10
Tuskegee Institute	1
University of Alabama	8
Arizona	
Arizona State College (Flagstaff)	1
Arizona State University	2
Arkansas	
University of Arkansas	15
California	
California State Polytechnic College	1
Chico State College	2
Claremont Graduate School	9
College of the Pacific	4
Long Beach City College	1
Mills College	1
Occidental College	2
Sacramento State College	2
San Diego State College	1
San Francisco State College	7
San Francisco Theological Seminary	1
San Jose State College	1
Stanford University	32
U. S. Naval Postgraduate School	1
University of California (Berkeley)	22
University of California (Los Angeles)	22
University of California (Davis)	2
University of Redlands	1
University of San Francisco	1
University of Southern California	52
Colorado	
Adams State College of Colorado	1
Colorado College	1
Colorado State College of Education	36
Colorado State University	5
University of Colorado	19
University of Denver	21
Western State College of Colorado	1
Connecticut	
Trinity College	1
University of Connecticut	8
Yale University	4
Delaware	
University of Delaware	1
District of Columbia	
American University	1
Catholic University of America	12
George Washington University	5
Howard University	1
Florida	
Florida State University	3
Stetson University	1
University of Florida	13
University of Miami	6
Georgia	
Atlanta University	2
Emory University	2
Georgia Institute of Technology	1
Mercer University	2
University of Georgia	8
Hawaii	
University of Hawaii	1
Idaho	
University of Idaho	3
Illinois	
Bradley University	3
Chicago Conservatory of Music	1
Chicago Lutheran Theological Seminary	1
Chicago Teachers College	2
De Paul University	3
Illinois State Normal University	5
Illinois Wesleyan University	1
Lewis College of Science and Technology	1
Loyola University	4
MacMurray College	2
Northwestern University	41
School of the Art Institute of Chicago	1
Southern Illinois University	3
University of Chicago	37
University of Illinois	51
Western Illinois University	2
Indiana	
Ball State Teachers College	7
Butler University	6
Huntington College	1
Indiana State Teachers College	3
Indiana University	40
Manchester College	1
Purdue University	7
University of Notre Dame	1
Iowa	
Drake University	10
Iowa, college unknown	1
Iowa State University of Science and Technology	9
Iowa State Teachers College	3
State University of Iowa	49
Kansas	
Fort Hays Kansas State College	2
Kansas State College of Pittsburg	9
Kansas State Teachers College (Emporia)	8
Kansas State University of Agriculture and Applied Science	1
University of Kansas	16
University of Wichita	5

TABLE B.--INSTITUTIONS GRANTING MASTER'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
Kentucky	
Eastern Kentucky State College	3
Southern Baptist Theological Seminary	2
University of Kentucky	11
University of Louisville	2
Louisiana	
Louisiana State University	11
Southeastern Louisiana College	1
Tulane University of Louisiana	1
Xavier University	1
Maine	
Bates College	2
University of Maine	4
Maryland	
Johns Hopkins University	6
Loyola College	2
Morgan State College	1
University of Maryland	9
Western Maryland College	2
Massachusetts	
Boston College	1
Boston University	50
Clark University	2
Harvard University	27
Massachusetts College of Art	1
Radcliffe College	2
Simmons College	1
Smith College	1
Springfield College	4
State Teachers College (Fitchburg)	1
Tufts University	2
University of Massachusetts	1
Wellesley College	3
Michigan	
Michigan College of Mining and Technology	1
Michigan State University	26
University of Detroit	3
University of Michigan	64
Wayne State University	25
Western Michigan University	1
Minnesota	
Macalester College	1
MacPhail College of Music	1
University of Minnesota	57
Mississippi	
Mississippi College	2
Mississippi Southern College	3
Mississippi State College	1
University of Mississippi	6
Missouri	
Central Missouri State College	1
Conservatory of Music of Kansas City	1
Missouri (Continued)	
Kansas City Art Institute and School of Design	1
Northeast Missouri State Teachers College	1
Saint Louis University	4
University of Kansas City	3
University of Missouri	23
Washington University	5
Montana	
Montana State University	4
Nebraska	
Creighton University	1
Municipal University of Omaha	5
University of Nebraska	32
New Hampshire	
Plymouth Teachers College	1
University of New Hampshire	4
New Jersey	
Montclair State College	9
Rutgers University, The State University of New Jersey	17
Seton Hall University	3
New Mexico	
University of New Mexico	5
New York	
Alfred University	1
Brooklyn College	5
Canisius College	4
Cathedral College of the Immaculate Conception	2
College of the City of New York	27
Columbia University	316
Cornell University	6
Fordham University	14
Hunter College of the City of New York	3
Marymount College	1
New School for Social Research	5
New York University	143
Niagara University	2
Queens College	1
Rensselaer Polytechnic Institute	1
St. Bonaventure University	3
St. John's University	1
St. Lawrence University	3
State University of New York	
College of Education at Albany	10
College of Education at Buffalo	1
College of Education at Brockport	1
College of Education at Fredonia	1
Syracuse University	24
Union Theological Seminary	2
University of Buffalo	12
University of Rochester	7
Yeshiva University	1

TABLE B.--INSTITUTIONS GRANTING MASTER'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
North Carolina	
Agricultural and Technical College of North Carolina	1
Appalachian State Teachers College	2
Duke University	6
East Carolina College	4
Meredith College	1
North Carolina College at Durham	1
University of North Carolina	22
Wake Forest College	2
Woman's College of the University of North Carolina	2
North Dakota	
North Dakota Agricultural College	1
State Normal and Industrial College	1
University of North Dakota	6
Ohio	
Bowling Green State University	1
College Conservatory of Music (Cincinnati)	1
Kent State University	4
Ohio State University	48
Ohio University	7
Ohio Wesleyan University	1
University of Cincinnati	5
University of Toledo	1
Western Reserve University	9
Oklahoma	
Oklahoma State University	16
Oklahoma City University	1
Phillips University	1
University of Oklahoma	32
Oregon	
Eastern Oregon College	1
Lewis and Clark College	1
Oregon State College	8
University of Oregon	13
University of Portland	1
Willamette University	1
Pennsylvania	
Bryn Mawr College	1
Bucknell University	7
Carnegie Institute of Technology	3
Duquesne University	9
Lehigh University	6
Marywood College	1
Pennsylvania State University	35
St. Vincent College	1
Temple University	26
University of Pennsylvania	14
University of Pittsburgh	44
University of Scranton	1
Western Theological Seminary	1
Westminster College	1
Rhode Island	
Brown University	3
Providence College	1
South Carolina	
University of South Carolina	4
South Dakota	
University of South Dakota	9
Tennessee	
Austin Peay State College	1
George Peabody College for Teachers	37
Memphis State University	1
Middle Tennessee State College	1
University of Tennessee	19
Texas	
Agricultural and Mechanical College of Texas	6
Baylor University	8
East Texas State Teachers College	3
North Texas State College	17
Prairie View Agricultural and Mechanical College	2
Sam Houston State Teachers College	1
Southern Methodist University	4
Southwest Texas State Teachers College	2
Southwestern University	1
Sul Ross State College	1
Texas Christian University	3
Texas College of Arts and Industries	3
Texas Technological College	4
Texas Woman's University	5
Trinity University	2
University of Houston	9
University of Texas	32
West Texas State College	3
Utah	
Brigham Young University	11
University of Utah	11
Utah State University of Agriculture and Applied Science	7
Vermont	
Middlebury College	3
University of Vermont	2
Virginia	
College of William and Mary	4
University of Richmond	3
University of Virginia	3
Radford College	2
Virginia State College	2

TABLE B.--INSTITUTIONS GRANTING MASTER'S DEGREES TO THE RESPONDENTS (Continued)

Institution	Number
Washington	
Central Washington College of Education	2
Gonzaga University	1
State College of Washington	8
University of Washington	9
West Virginia	
Marshall College	2
West Virginia University	10
Wisconsin	
Marquette University	2
Stout State College	2
University of Wisconsin	49
Wyoming	
University of Wyoming	6
Foreign	24
No Response (or degree)	86
Total	2542